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VOCABULARIES

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THEIR IMPORTANCE

"Language is the formative organ of thought," Wilhelm von Humboldt. "In the development of each person," says Prof. Kirkpatrick, "nothing exercises a greater influence in moulding and developing thought and feeling than his language environment. The vocabulary of a person represents in a condensed and symbolic form all that he has experienced and imagined. The breadth of his mental experience is indicated by the number of words that have for him a meaning, while the accuracy of his thinking is shown by the constancy and exactness of meaning with which he uses words." Prof. Ludwig Geiger attaches even greater importance to language for he thinks that it has actually created human reason and intelligence. "Every word," says J. G. Fitch, "which has been invented is the record of some fact or thought, and furnishes the means by which facts or thoughts can be transmitted to others. In a sense every new word represents a new conquest of civilization, a distinct addition to the intellectual resources of the world." Prof. Max Mueller says: "No human being utters articulate sounds without an object, a purpose, a meaning. The endless configurations of sound which are collected in our dictionaries would have no existence at all, they would be the mere ghost of a language, unless they stood there as the embodiment of thought, as the realization of ideas." But the living winged word is like consciousness itself, ever changing,

reflecting, as it does, a mutable world. "Language exists in man," says Prof. Mueller, "it lives in being spoken, it dies with each word that is pronounced and is no longer heard." Therefore, in order that its content, the idea, may not perish it must be given a permanent form, the written word, without which civilization would still be quite primitive.

Prof. S. S. Laurie recognizes the importance of giving the child a good vocabulary. "For adding to his (the child's) stock of understood words," he says, "we add to his stock of understood things, and consequently, to his material for thought, and to the growth of the fabric of the mind." Pres. A. R. Taylor, referring to children's vocabularies, says: "Their knowledge and vocabularies grow at approximately the same rate and revealing also the function of language in knowledge-getting." The great orator whose choice, cogent words, pregnant and beautiful language, charm, convince and hold spell-bound his audience is invariably a man of large vocabulary. "Precision, clearness and elegance of diction," says E. W. Doran, "are impossible with a man who has a limited vocabulary."

It is impossible to deny the value of a large vocabulary, provided every word stands for a living, clear-cut idea. Otherwise it will be only so much dead mental baggage. Right here it is apposite to lay one's finger on a serious defect in our modern education, viz., the haziness in the student's mind of the meaning of words. This holds true in the graded schools as well as in colleges and universities. Speed and quantity have become the ideal of our hot-house education. It would be well for teachers to insist on a clear definite grasp of the meanings of words. They should take to heart Blaise Pascal's injunction, "Define your terms." Failure to heed this excellent advice is apparent everywhere in modern thought. Hazy and muddy speculation, and theorizing are seen in every science and branch of knowledge. Many thinkers go so far as to spurn definition as pedantic. In an age of so much chaotic, indefinite thinking due to early superficial training, when language was formed, it is positively refreshing to find a Dr. Floyd S. Muckey in his "Natural Method of Voice Production" stressing this educational principle. "Definition," he says, "is the foundation for the whole structure of knowledge; without accurate definition clear thinking and logical conclusions are impossible. It is the very beginning of knowing and the truth cannot be reached without it. It is not only the beginning of knowledge, but is the warp and woof as well. It is the anchor which holds us to the solid ground of reason. For these reasons clear and accurate definition is of the greatest importance in

any scientific investigation. Without it we are sure to drift into a maze of idle and barren speculation."

If this principle had become a habit in early childhood, and had been maintained throughout the elementary school, high school, college and university, much time and trouble could have been avoided. Whole libraries of books could have been left unwritten, and an infinite amount of acrimonious disputes, bickerings and discussions would not sully the daily press. Accuracy is the soul of scholarship, but this ideal can never be attained without a perfect grasp of the meaning of words. Every word in one's vernacular should be valued as a most precious jewel, an heirloom symbolizing a necessary experience in the cultural progress of our race. There is nothing to which the child falls heir that can be compared to the mother tongue, because it is the conserver and bearer from age to age of a people's intellectual and spiritual wealth. Therefore, let the student acquire as soon as possible great facility in using the key that unlocks this inexhaustible treasure house.

SIZE OF VOCABULARIES

For a long time the estimates of individual vocabularies varied greatly, even among distinguished scholars, a proof that no careful study of the subject had been made. Those early estimates were merely wild guesses. The supposed size of the vocabularies of uneducated laborers is now found to be grossly erroneous. Max Müller, for instance, quotes an English clergyman, A. D. Orsey, to the effect that some of his parishioners used scarcely more than 300 words. Horatio Hale makes the astonishing statement that English workmen get along with 100 words. Canon Farrar once overheard the conversation of three English peasants who, in his opinion, used not more than 100 words. Prof. Wendell thinks that for every day purposes 1000 are amply sufficient. It has also been asserted that persons of fair intelligence who read their Bibles and Shakespeare rarely use more than 3000 or 4000. Prof. Salisbury quotes Mr. Laurie as saying that a child up to the eighth year "probably confines himself to not more than 150 words." Everybody has doubtless heard of Geo. P. March's estimate of Shakespeare's and Milton's vocabularies. Fifty years ago he wrote: "Few writers or speakers use as many as 10,000 words, ordinary persons of fair intelligence not above 3,000 or 4,000. If a scholar were required to name without examination the authors whose English vocabulary was largest, he would probably specify the all-embracing Shakespeare and the all-knowing Milton. And yet in all the works of the great

dramatist there occur not more than 15,000 words, in the poems of Milton not above 8,000. The whole number of Egyptian hieroglyphic symbols does not exceed 800, and the entire Italian operatic vocabulary is said to be scarcely more extensive."

But all these early estimates are wide of the mark according to later calculations. Dr. E. S. Holden basing his estimate on Mrs. Clarke's concordance of Shakespeare's works says that our great dramatist used more than 24,000 different words, and Milton, according to Cleveland's concordance, used in his poems alone, exclusive of his prose, 11,377 words. Dr. E. W. Doran in his study of vocabularies, PEDAGOGICAL SEMINARY, 1907, vol. 14, No. 4 supports Mr. Holden's conclusions. The latter author has also made the following estimates based on concordances of the respective authors' works, Tennyson 10,574, Cowper, 11,284, Milton, 12,800, Shelley 15,959.

Dr. E. S. Ponçot, who has read all of Victor Hugo's works in French, has calculated that in all his writings he uses 38,000 words, and in Notre Dame, 2 vols. there occur 27,000 different words. Dr. Holden using Webster's unabridged Dictionary, Ed. of 1852, tested his own vocabulary and found that he knew the meaning of 33,456 words. As this edition contains less than a third of the words of the latest edition his vocabulary must be much larger. The *New York Times* estimated that Rufus Choate used 11,700 words. Miss M. W. Shinn estimated her vocabulary by the dictionary method at 40,000, Prof. E. A. Kirkpatrick at 70,000 words. Messrs. Farquhar and Eastman making the same test found their vocabularies considerably larger than that of Dr. Holden. Prof. Gray and Gill estimated their technical vocabularies as comprising "a very large fraction indeed of 30,000 words."

Dr. Holden supported by Asa Gray, the botanist, and Dr. Theo. Gill, the zoologist, says that men of science know more than 25,000 names of plants and animals. Prof. Kirkpatrick has estimated that an American citizen with a common school education knows about 10,000 words, and well read college graduates and those who have pursued graduate courses at a university must know from 20,000 to 100,000 words.

The same author using Webster's academic dictionary with about 28,000 words on 645 pages had the student begin say on page 2 and made him count all the words in bold-faced type that he knew, and likewise on every fiftieth page. Then he repeated this process beginning with page 20. The results were so nearly equal that he considered this method fairly accurate. In this way he obtained for pupils of the different grades the following figures:

Grade II	4,480
Grade III	6,620
Grade IV	7,020
Grade V	7,860
Grade VI	8,700
Grade VII	10,660
Grade VIII	12,000
Grade IX	13,400

For high school students the figures were as follows:

Freshman	15,640
Sophomore	16,020
Junior	17,600
Senior	18,720

For normal school students he estimates the average at 19,000, and for college students 20,120.

A New York paper claims that a business man's vocabulary amounts to about 3,500 words. Dr. Doran counted the words used in a large number of business letters, pertaining to many kinds of business, and the number exceeded 3,000, and yet he could call to mind scores of words denoting articles of merchandise not found in these letters. "If the names of all the principal articles of commerce," he says, "were included, the number would be doubled."

Generally speaking the vocabularies of all civilized languages have grown enormously since Shakespeare's and Milton's day. It is safe to say, however, that no age has witnessed such a growth of vocabularies as the last 50 or 75 years, a phenomenon due chiefly to scientific research and the consequent expansion of industries and commerce. This fact necessarily leads to a general growth of individual vocabularies.

ACTIVE AND PASSIVE VOCABULARIES

A person's vocabulary is naturally divided into two kinds, the active and the passive. The former consists of the words that an individual has at his tongue's end in speaking and writing a language, the passive contains those words that he can understand when he reads or hears the language spoken or read. The latter is always much larger than the former. Although it is very important to make this distinction only a few teachers do so. As a result much time and energy are wasted in our schools.

The majority of students in our American high schools and colleges choose a modern language for the purpose either of getting a certain number of units of credit for graduation, or

of acquiring a reading knowledge of it. Now, since a passive vocabulary can be acquired in much shorter time than an active, why should they be compelled to acquire the latter for which they will have no use?

All teachers who employ a conversational method, including the much-lauded Direct Method, fail to see the unreasonable and impractical in their procedure. In Europe there may be some excuse for such an indiscriminate use of that method. There the study of a modern language is begun at the age of eight or nine and continued without interruption, for eight or nine years. Furthermore if we bear in mind the fact that our students begin nine years later or at the end of adolescence, the unwisdom of using the same method should be perfectly clear especially as we spend only one half the time on a modern language that the Europeans do, and often much less.

When we begin, the age of adolescence is passed. We seem not to be aware of the momentous physiological and psychological changes that took place during the preceding eight or nine years. Every teacher should know that mutation of voice occurs at the age of puberty reducing the flexibility and plasticity of the speech-organs, and also rendering the ear less capable of detecting slight shades of sound, syllabic and sentence accent and musical inflexions. Another even more important fact, also overlooked or ignored by the enthusiastic advocate of the Direct Method, is the fixity of the vernacular symbols, and the syntax of the native tongue, especially of the idioms, attained at the end of adolescence. The mind has now received its definitive linguistic form, and the unique, intimate and deep feeling for the mother-tongue, that nothing can ever replace. As a result the student learns the foreign language by passing through the native equivalents.

Pres. G. Stanley Hall, a Nestor among American educators and *savants*, and a man whose power of psychological introspection is perhaps unrivalled, tells us that whenever he reads German, there is a subconcious translating devil who never rests satisfied until the German thought-form has been changed into correct idiomatic English. The truth of my contention receives added force when we recall Pres. Hall's own statement that he has read more German in his specialty during the last thirty years than any other language, nor should it be forgotten that he spent a few years as a student in Germany.

The slight chance for American students of acquiring an active vocabulary and the facility to speak the foreign language becomes perfectly apparent if we consider the large classes, forty, fifty or sixty members. With seventy-five or eighty recitations of fifty minutes each per semester, it can readily

be seen that the time allotted to each student for the exercise of the speech-organs is practically *nil*. Furthermore, outside the modern language class-room, the student hears and speaks only English. The plain truth is, in spite of the astounding results of the Direct Method, that a native American who began the study of French, for instance, at the age of eighteen or twenty, even if he has spent a year or two in France betrays his nationality by his foreign accent, his use of prepositions, idioms, sentence accent, musical inflexions, etc. The trained native ear cannot be deceived, as some advocates of the Direct Method believe. But the same is true regarding the foreigner who tries to speak English.

Now, since the chief aim in studying a foreign language in this country is to acquire a reading knowledge, our students should be divided into two main sections. First those who desire access to the foreign literature only, and secondly those who wish to master both the spoken and written language. To insure real success in this study neither the one nor the other division of students should be admitted without a thorough analytic knowledge of the native grammar. The actual ignoring of this rule at present is the cause of the wretched results in our Modern Language classes. Let this plan be adopted because it is the most scientific, economical, and so will prove the most satisfactory.

PRIMITIVE VOCABULARIES

As a result of extensive investigations, it is now perfectly clear that earlier estimates were wide of the truth. Civilized man is apt to look upon his primitive brother as, in every respect, inferior to himself. It is natural to suppose that his untutored mind contains very few ideas. It has been thought that a few hundred words would be quite sufficient to express the objects and activities pertaining to his daily life and subsistence. Primitive man has generally been regarded as a great ignoramus, whose brain tracts lay practically fallow. But the linguistic anthropologist has finally made an end of this fiction. The native American languages have been studied and dictionaries of many compiled. We are, therefore, able to look into the aboriginal soul of the New World. We are greatly surprised. Instead of being limited in words and modes of expression, the aboriginal languages are rich both in form and content. Prof. Daniel G. Brinton, in his Essays of an Americanist, compares the Mexican vocabulary of Molina containing about 13,000 words, and the Maya vocabulary of the convent of Motul numbering 20,000 words, with the English dictionaries of the same period viz., the latter half of the 16th

century, before Spenser and Shakespeare wrote, and finds this comparison "not disadvantageous to the American side of the question." Prof. A. F Chamberlain of Clark University basing his estimates upon the following dictionaries of Indian languages obtains these striking figures:

Navaho (Mathews 1891) 10,000.
Cree (Végréville 1865-1879) 17,000.
Montagnais (Végréville 1891) 18,000.
Dakota (Riggs 1852-188-) 20,000.
Cegiha (Dorsey 188-) 20,000.
Blackfoot (Maclean 1887) 25,000.
Tuskarora (Hewitt 1886) 30,000.
Micmac (Rand 1849-1894) 30,000.
Yahgan (Bridges 188-) 40,000.

A. G. Morice a student of the Déné languages says that the carrier tribes vocabulary contains 150,000 verbal terms, an astonishingly large number if correct. But it should not be overlooked that these large numbers do not necessarily indicate the existence of a corresponding intellectual wealth. Many of the words in these primitive languages are really useless, since they add nothing to the thought of the people. As an example may be given the numerous pronouns in the American languages. In some a different pronoun is used for different states or conditions in which the person may be, for instance, whether he is sitting, standing, lying, etc. The student of primitive words soon discovers the concreteness of their meanings thus revealing the psychological fact that the evolution of thought is from the concrete to the abstract. Nevertheless it is indisputable that primitive vocabularies have been greatly underestimated.

CHILDREN'S VOCABULARIES

The physical and mental development of children differs greatly in different individuals. Consequently their vocabularies vary a great deal. Prof. Preyer says that he did not learn to speak till he was about three years old. A few children are on record as having begun to talk at eight months of age. M. W. Shinn says that the baby she studied had, when eleven months old, 84 words in all, consisting of 51 names of people, 28 action words, and some adverbial expressions. These words were securely associated with ideas. But there have also been children, even of average intelligence, who could not speak before they were six or seven years old.

There has been a great diversity of estimates regarding children's as well as adults' vocabularies. Prof. Laurie in

his " Lectures on Language " makes wild guesses. In the first edition he holds that a child up to the eighth year uses 150 words, in the second edition, 200 or 300, in the fourth edition, from 400 to 500. Either as a general or average estimate this is wrong. Later and accurate counting of the words has disproved these early guesses.

William Canton, basing his estimate upon a careful study of the vocabulary of a girl six years old, credits a child of that age with a command of 2,000 words. E. S. Holden counted the words actually used by his three children under two years of age, excluding all doubtful ones. The first two knew together more than 500. His first child, at the age of two, used 483 words, the second 399, and the third 172. M. C. Gale and H. Gale, using the material gathered by Prof. and Mrs. West of the University of Minnesota in the study of their own daughters Ruth and Margaret when respectively two years old, found that the former used 614, and the latter 578. E. B. Doran finds the average of a two-year-old girl to be 400. Prof. E. A. Kirkpatrick says that the words used by a two-year-old child vary from a few to 1,000, and he thinks the more usual number is from 200 to 400. He bases his estimate upon a very thorough study of the subject. Prof. W. T. Preyer studied the vocabularies of nine children. The smallest vocabulary consisted of 50 words, the largest of 1,121. Each of the other seven children used from 400 to 500 words.

Of course, as already intimated, there are great differences. Viola Olerich, for instance, a prodigy known as " the famous baby scholar," was examined by a committee of school teachers when she was one year, eleven months and twenty five days old, and it was found that she knew 2500 nouns. The committee estimated that she knew at least 500 more nouns making 3,000 altogether. Therefore, she must have known between 4,000 and 5,000 words since the committee did not include any other parts of speech that she naturally used. Excluding, then, individuals phenomenally gifted, it seems that the average vocabulary of a child four years old must be four or five hundred words, as established by careful and extensive studies up to the present time. It is quite improbable that future investigations will materially change this figure.

CHILDREN'S VOCABULARIES ACCORDING TO SEX

Dr. E. W. Doran has made a thorough study of children's vocabularies both in infancy and during school age, and with reference to sex.

The result of his investigations tends to prove that in earlier infancy the girls use more words than the boys. The average

number of words for the 48 boys he studied is 531.4, and for the 63 girls 404.3. This would seem to favor the boys but it is only apparent. For the average age of the boys is 27 months, while that of the girls is only 23. The boys are therefore four months older. Ten of the girls, or 15.8 per cent., are over 24 months old, while 20 of the boys, or 41.6 per cent., are over 24 months old. Two periods especially of the time studied make possible a somewhat definite conclusion. At 24 months 8 boys have an average of 367.2, and 16 girls an average of 573.1 words. Thus the girls excel by 206 words, or 56.1 per cent. At 30 months of age 5 boys average 838 words, and 3 girls 1,109.3 words, an excess of 30.9 per cent.

After the 24th month it is difficult, on existing data, to ascertain the exact relation of boys and girls, but Dr. Doran thinks that up to the fifth or sixth year the girls surpass the boys. After this, as we shall see presently, the relation is reversed.

A test was made in a village public school, Edmond, Oklahoma, of boys and girls of the 6th, 7th and 8th grades, and the result was:

COMPARISON

6th, boys 5 months younger know 798 more words than the girls.

7th, boys 6 months younger know 808 more words than the girls.

8th, boys 20 months younger know 574 more words than the girls.

But a test in an Arkansas public school was in favor of the girls. The test included 44 girls and 22 boys. The girls proved better students than the boys.

A test of all the students of the Oklahoma Normal School gave the following results:

First-year boys knew 4 per cent more words than girls.
Second-year boys knew 11 per cent more words than girls.
Junior boys knew 21 per cent more words than girls.
Middle boys knew 20 per cent more words than girls.
Senior boys knew ½ per cent more words than girls
All classes boys knew 11 per cent more words than girls.

OTHER TESTS

About 50 students, nearly equally divided as to sex in the Kansas Normal School, at Fort Scott, were tested. The young men averaging 2 months younger knew 10 per cent more words than the young ladies.

In the Clinton Normal School, Clinton Mo., about 20 stu-

dents of each sex were tested. The men 14 months younger knew 7 per cent more words.

In Kay County Oklahoma Summer Normal, 2 classes of teachers about 25 in each, were tested. First-grade teachers 6 male, 20 female; the men 4 yrs. younger knew 11 per cent more words. Second-grade, 5 male, 20 female; the men were 2.6 yrs. older and knew 30 per cent more words.

In Oklahoma County Summer Normal, 72 teachers were tested, 26 male and 46 female. The men knew 26 per cent more words. A few, but not satisfactory tests, have been made that favor the young women.

A test of the children in the public schools in Jackson, Miss., white boys 114, girls 109. The boys averaged 2.2 months younger, and knew 5.8 per cent more words; colored, 39 boys, 76 girls. The boys were 11.5 months younger and knew 3 per cent more words.

Summary: In all the tests reported by Dr. Doran we find the following facts: The students of eleven schools have been tested (including teachers, summer normals) and thirty-four classes were examined. In the eleven schools tested as to sex, males made the higher record in eight of them. In the thirty-four classes males made a better record in 22. In the Jackson schools the boys made the highest total average in the white schools.

As regards native and foreign born children, tests made in Minnesota and Kansas schools show that the native made a better record.

A noteworthy fact is that Irish girls use more words than the Irish boys even after 6 years of age.

The results of Hartman's tests at the Annaberg schools in Germany also show that before six years of age the girls excel the boys, but after six it is the reverse. Pres. G. Stanley Hall's careful and extensive tests of Boston children in 1880 show that the boys knew more of three fourths of the concepts than the girls. Dr. Hall says: "In 34 representative questions out of 49 the boys surpassed the girls, as the German boys did in 75 per cent of the Berlin questions." He furthermore makes the following explanation: "The greater the number of concepts in the test lists, the more boys seemed to excel girls. The easy and widely diffused concepts are commonest among girls, the harder and more special or exceptional ones are commonest among boys."

Exceptions to This Rule. In the south the girls seem to excel the boys during the entire public school course as may be inferred from Dr. Doran's tests. This is true also of the Irish girls. How are these curious exceptions to be explained? One

reason perhaps is that the southern girl develops earlier, and is more precocious than the boy. Furthermore, she is more out of doors, a fact that contributes more than anything else, in childhood, to increase the stock of ideas. In the plastic and intensely active period of childhood there is certainly no better place in which to live than the country. The child is only capable of appropriating concrete ideas, a process which is abundantly facilitated in a country environment. Dr. Hall's study in 1880, "The Contents of Children's Minds on Entering School," proves this. He prepared a list of words denoting wild and domestic animals and birds, trees, plants, flowers, insects, parts of the body, woods, hills and meteorological phenomena, etc., such as school children are supposed to know. These they were required to define. Regarding the result of this test of Boston children Dr. Hall has this to say: "For 86 per cent of the above questions the average intelligence of thirty-six country children, who were tested, ranks higher than that of the city children of the Table, and in many items very greatly."

Her precocity and more extended out-door life, then, may account for the southern girl's superiority in the use of words. Her northern sister stays more in the house and is a great part of her time busy playing with and talking to her doll, which of course requires a very limited vocabulary.

But it may be asked why the Irish girl differs from the American in surpassing the Irish boy even during school age. It is supposed to be due to the naturally slow development of the latter and his innate sluggishness. The national Irish wit is said to have evolved very slowly and so, according to the biogenetic law of recapitulation, the individual's intelligence, and mental alertness would likewise develop slowly. It may be said that this applies to the female also, and so it does to a certain extent, but in common with other girls the Irish girl develops as a rule faster than the boy.

But why has the boy, in the main, a larger vocabulary than the girl after the age of six? Because he is more out of doors. He sees and hears more, takes more and keener interest in all that happens in the great world just opening its wonders before him. The girl stays in the house, plays with her dolls, and the fairy-tales told her do not stir the mind like the boy's stories of thrilling adventures. He also reads the newspapers more.

WHERE AND HOW TO ACQUIRE A LARGE VOCABULARY

From what has been said so far it is quite clear that a rich vocabulary is desirable. For since education in the best sense means unfoldment, the highest efflorescence of the soul, the

capacity to think clearly and cogently, to feel deeply and sympathetically, and since this process of self-realization is practically impossible without words, the early and assiduous cultivation of one's mother-tongue should be regarded as a delightful task of supreme moment. It is quite safe to say that the increase of a child's vocabulary is a fairly reliable index of its growth in intelligence.

Judging from Pres. Hall's experiments on Boston children, as well as from those of many other investigators, it seems that the country is the best place for a child during that plastic and most decisive period of language formation. Pres. Hall emphasizes this fact, and, since his own childhood was spent in a rural environment of New England, he is well qualified to appreciate its beneficent influence. Every one knows how excellently he has described education in a sand-pile in his New England home. A cultured Christian home in the country is unquestionably the most ideal place, where the physical, intellectual, and ethical foundation of soul-life may be laid for the later erection of a symmetrical structure of a complete personality. Says E. Davenport in his *Education for Efficiency*: "The conditions of country life are peculiar in their contribution to health, their stimulus to personal initiative, and their fostering influence upon that spirit of individualism upon which rest our free institutions and our democratic government. The country is a good place in which to be born." In a rural environment with its multitudinous voices and endless diurnal stimuli continuously impinging on the budding soul, the solemn stillness, the mysterious whisperings of the dark, majestic forest, the free-throated warbling of birds, the murmuring brooks, and at night the impending starry vault with millions of twinkling lights, the young denizen of the world is sure to develop the rich psychic possibilities of which he is prenatally heir, if only the reactions aroused by the ceaselessly inrushing flood of impressions are wisely directed and utilized by cultured parents or experienced sympathetic teachers. Who can fully estimate the formative influence of unspoiled nature as it reveals itself amidst rural scenes! The earth is most beautiful at dawn, but very few city children then see it. Those who live in the country are mostly children of rude laborers, "whose eyes have no sight for that wonderful peace and coolness, and unspeakable sense of rest and hope which lie like a blessing on the land." And so they fail to be partakers of that "most ancient, most glorious revelation of God which appears every morning as a living reality," to use the apt words of Herder.

The country, then, is undoubtedly the best, the most ideal

environment for the acquisition of a vocabulary. But the greatest possible stress must always be laid on a home of refinement and culture as its indispensable complement. Should any doubt remain let us recall the investigations made by Miss Dinsmore of London, " in schools attended by children of laborers and small shop-keepers and schools attended by children of the middle classes, which showed that the children of the latter were far superior in their knowledge of words." It is absolutely necessary that the child come in daily contact with educated adults whose language is refined and whose vocabularies are choice and extensive. Nor must the child be isolated but have a number of suitable playmates who will be a constant incentive to talk. A great deal of unwisdom has been displayed in regard to the instruction of children and youth in all ages and among all nations. The Greeks and Romans employed slaves as tutors and guardians. Our southern fellow citizens have employed and still employ colored nurses who are frequently ignorant, superstitious, unrefined, and even vicious. For the training of their race horses, the building of their houses, the making of their furniture and clothing, the managing of business, industries, etc. the best talent is secured, but for the moulding, training and education of the precious, plastic minds of their own sons and daughters any old, worthless thing is good enough. Slang, incorrect pronunciation, violations of grammar, the corruption of character by the implanting of immoral thoughts and beliefs in hobgoblins and mysterious beings that forever haunt the soul, are thus lodged so firmly in the tender receptive mind that hardly any later training, however severe, is able to eradicate them. Many a middle-aged man of culture has not been able to free himself of the linguistic corruption of the nursery, and that in spite of the most rigid watchfulness and self-criticism. The reason is obvious. What once has become automatic by repetition, sinking into the subconscious level of the psycho-physical organism, is never lost. In an unguarded moment, when conscious inhibition is lacking, the latent idea, a sort of uncanny *revenant* from childhood's days, will suddenly effect an intercentral connection between the impressive and expressive paths, and the slangy word, the corrupt pronunciation, the grammatical error, or the musty profanity will glide over the lips.

The child is, as a rule, very inquisitive. This natural bent should be encouraged and satisfied. In this way its store of ideas will grow rapidly. Plenty of well selected picture-books and playthings, as for instance those that illustrate mechanical and scientific principles and devices, if only intelligent parents

or elders take the interest and trouble to explain them and direct their use, will greatly enrich the infantile vocabulary. The Germans have long recognized the importance of these means. Their picture-books illustrating the furniture of different kinds of houses, the various trades and industries, factories with their varied products, pictures of animals, flowers and plants, farm and city life, railroads and steamboats, etc,—all these have been used by them to great advantage. If such things were wisely used as a source of amusement before school age and in the nursery, splendid results could be secured. Here, it seems to me, lies the promise of a better equipped humanity. If the linguistic and educational possibilities contained in these simple devices were once realized, our children would leave the play-ground training field of the home and enter the primary schools with a store of ideas and a vocabulary before which the present ones would dwindle into insignificance. With the present slipshod, haphazard and chary method of imparting a vocabulary there are too many details connected with the different phases of life that remain nameless in the youthful mind and therefore practically unknown. But when this scientific procedure is adopted in the home a better day will dawn for humanity, and a great scholar and educator like President G. Stanley Hall, so deeply interested in children and adolescents, will not have to lament "that fifteen-year-old country boys are often blocked incredibly in reading by ignorance of simple words."

At four or five years of age the process of language formation is about finished, and the serious task of completing the structure, whose foundation has just been laid, should begin. In about four or five years the most important and decisive stage in psychic unfoldment has been completed. For then that feeling for the vernacular has been developed which is the human soul's most precious possession. No later linguistic studies can supplant it. The language form, the set of vernacular symbols suffused and replete with childhood's emotions, thoughts and experiences constitute, determine, and color all later intellectual activity. How intimate, how full of meaning and emotion are the common everyday Anglo-Saxon words to the Englishman or American! Any other set of symbols acquired later seem pale and lifeless in comparison. They do not grip the heart with the warmth, nor utter the soul's deepest aspirations and secrets with the ease, fulness, and spontaneity of the native forms. The more varied and extensive this native linguistic explicitation of the plastic mind, the richer and more complete will be the mature life. The importance of these early motor and auditory forms, or

images, of the native tongue cannot be exaggerated. They constitute, as it were, the fertile root from which springs a rich or meager intellectual harvest.

It is at the age of five or six that a new element in language growth is added, viz., the visual. Every educator with clear vision must deeply regret the great and general incompetence and lack of thoroughness permitted right at this starting point in our schools. The best trained, the fittest by nature, the most sympathetic men and women with aesthetic souls, instinct with the sense of artistic creation, literary taste and talent, are not engaged as teachers. The famous English schoolmaster, Richard Mulcaster, about three hundred and fifty years ago, dared to suggest that elementary teachers should have the smallest number of pupils and the highest pay. "For the Elementary," he says, "because good scholars will not abase themselves to it, it is left to the meanest, and therefore to the worst." He desires that "the first grounding" should be handled "by the best" and that his reward should be greatest, "because both his pains and his judgment should be with the greatest." He continues, "It is the foundation well and soundly laid which makes all the upper building muster with countenance and continuance. If I were to strike the stroke as I am but to give counsel the first pains truly taken should in good truth be most liberally recompensed, and less allowed still upward as the pains diminish and the ease increaseth." He adds that, because this is not done, the imperfection of the elementary pupils "at this day doth marvellously trouble both masters and scholars, so that we can hardly do any good, nay, scantly tell how to place the too raw boys in a certain form with hope to go forward orderly, the groundwork of their entry being so rotten underneath."

What a strangely modern ring this complaint has! Still Mulcaster's wise suggestion is not the first of its kind in the history of education. Plato's Republic is the first known treatise upon education, and it is in this masterpiece that the great Athenian thinker-artist about 350 years B. C. said: "You know also that the beginning is the chiefest part of any work, especially in a young and tender thing; for that is the time at which the character is formed and most readily receives the desired impression." (Rep. Bk. II., Par. 377, Jowett's Transl.) Plato realized also the great importance of adapting the material taught to the child's mind, just as clearly as Mulcaster. Alas, what wisdom, what golden truths, hewn by the ancients from the solid rock of experience and deep reflection, still sleep in the ear of drowsy posterity! No wonder that the plastic soul of the child is not moulded, in the

home and the class room, into an image of divine grace and loveliness. The choicest, most suitable mental *pabulum* is not placed by loving hands before our hungry, omnivorous youth; nor is love of beauty, as a life-harmonizer, as Schiller conceived it, kindled in the child's heart. How can young inexperienced girls, for instance, with but a meager education, innocent of psychological training and insight, lacking even the mastery of the spirit, strength and beauty of their own mother-tongue, impart these things to the tender unfolding minds given in their charge? Instead of teachers truly cultured, whose warm hearts beat with high moral, social and artistic purpose, we employ, very largely, mere operatives and makeshifts in the humdrum factory of instruction. Psychological pedagogy is still a young science groping its way in the bewildering maze of theories and guesses. Experimentation and volumes upon volumes replete with experimental data are accumulating at a tremendous rate, but where is the superior scholarship, the diviner humanity accruing therefrom? Theory is too far ahead of practice. We have too many theorists and book-makers, and too few Pestalozzi's in the class-room. In education, as in all fields of human activity, truth has outrun its practical application. Let us get more teacher-artists to incarnate it in young souls. There is truth enough known to transform our earth into a veritable *Civitas Dei,* and to fashion the human child into a thing of beauty that would be "a joy forever."

Why is this ideal so slowly realized? Because man, engrossed in the world of sense, fails to lay the chief stress on things of infinite and eternal value. He lives, moves, and has his being in matter and motion, the fleeting aspects of existence. As yet he has scarcely surmised that the third aspect, form, is, by far, the most important. What, for instance, is moral truth compressed in the irrepressible word *ought,* if not in its essence form the structure of ideal personality? The chief element in art is form. But has not the search for it been rather misdirected ever since the birth of artistic genius *par excellence* in Greece 2,400 years ago? What is an Apollo Belvedere, a Venus de Milo, a Juno di Ludovisi, or an Olympian Zeus of Phidias compared to a beautiful human soul? So far man has preferred to apply his highest genius to things that perish. He desires to make his ideal live and breathe in the marble, or the canvas or in the divine harmonies of music. Here he would immortalize himself. In vain. These superb works of art, be they plastic or literary, never become a living formative influence in the lives of ninety per cent of our race. Beauty or artistic value must be appre-

hended and enjoyed by all if moral turpitude is not to sully it. This ideal cannot be attained until man realizes that the young, impressionable, plastic soul is the fittest and worthiest medium of the artist's creative activity. If the artist, capable of calling forth from the inanimate marble, or on the canvas, an ideal of beauty, is worthy of the highest honor and reward, should not the teacher-artist enjoy the same distinction and appreciation, he, the spirit touched to fine issues, who awakens and helps to complete unfoldment the divine image slumbering in the child and youth? This question will not receive a hearty affirmative answer until the true criterion of all values has been universally recognized and adopted. The great and peerless teacher of Galilee fixed this criterion more than nineteen hundred years ago when he said: "For what is a man profited if he shall gain the whole world and lose his own soul?" The human personality is here given a practically infinite value. Therefore, the teacher, whose function next to that of the parents is to train, mould, refine and perfect young souls, should be second to none in human society. Some time, in the distant future, this high prerogative and inestimable worth of the genuine teacher will be fully and freely acknowledged. Some day parents and teachers will be deeply versed in psychological pedagogy, and work hand in hand for the production of a nobler, more beautiful race. In that day they will be the *élite* and the greatest benefactors of humanity, not the merchants, politicians, statesmen, warriors and rulers.

VARIOUS WAYS OF ACQUIRING A VOCABULARY

Tests have been made which show that the value of a good book, read slowly and with a dictionary at the elbow, cannot be overestimated. Our present hurried, haphazard, and indiscriminate juvenile reading is of small value and questionable benefit. In our age of hurry and ever accelerated speed, fast reading is always encouraged and even urged upon the student. This is a grave error, for it is like overeating, the system being unable to assimilate it all. It would be wise to stick to the principle of the Jesuit educators viz., thoroughness, *non multa sed multum*, observing the Latin adage, FESTINA CENTE, we shall in the long run overtake our nervously hurrying competitors. The rule of the Jesuit teacher, in the first form, to assign as a lesson only four lines of Latin text may seem ridiculous when compared with our quantitative standard, but the results they obtained speak for themselves. Not only was the exact meaning of every word in the lesson firmly lodged in the learner's mind but its spelling and syntactical relation in the sentence. Nor were synonyms, his-

torical and mythological allusions connected with the four lines neglected. As language is now studied the learner has often the vaguest notion of the meaning of words, and, not infrequently, none at all. Words merely remembered, without a clear-cut definition, are a useless mental equipment.

Another excellent way of acquiring a vocabulary is word-analysis, unfortunately hitherto greatly neglected. Combined with spelling and etymology this study will give the student a knowledge of roots, prefixes, infixes, suffixes, primitive, and derivative words that is absolutely necessary to a masterful command of the mother-tongue. An accurate knowledge, for instance, of Anglo-Saxon and Latin affixes will add thousands of words to his vocabulary, besides clarifying the meaning of many already known. Glimpses into the history of words will thus be obtained that reveal a new and fascinating world. In the primitive roots, hoary with age, for their origin is lost in prehistoric mist, the young student may begin to read the phyletic soul mirrored in them.

What a long race experience, what a dark and sad stretch of human error, naïve faith in the inexplicable and superhuman, and superstitious terror are suggested by the every-day word, *disaster!* Analyzed it is found to be composed of the Latin prefix, *dis,* Greek ϛνς , ill *asunder,* and the Latin noun, *astrum,* Greek ἄστρον, star. Thus this little word alone suggests a long chapter in the history of the human mind viz., astrology. Once the heavenly bodies were divine beings good and evil. Every man was born and lived under the influence of one of these celestials. This primitive superstition still survives despite scientific progress. Astrologers still ply their obscurantist business and have many dupes. The expressions "born under a lucky or unlucky star," or "you may thank your stars," still bear witness to this early stage in psychic evolution.

Again a study of the Indo-European root of *jn, gn,* or *kn* will reveal the astonishing vitality and fertility of human speech. It resembles in this respect life itself in its almost endless ramifications. This root long ago sent forth two main stems, one denoting physical, the other mental generation. Thus we have the Sanscrit *jan* to beget, produce, *jana* man, *janaka* father, *janani* mother, *janman* birth, existence, and *jñā* to know and *jñāna* knowledge, insight, etc. In Greek its growth is even more luxuriant. Only a few examples can be cited. Thus, denoting physical production, we may notice γεγνομαι I become, am born, etc; γενέτμς begetter, father; the begotten or son, γενετμ́ or γνέτειρα ; she who bears, mother, γενεσις ; creation, generation, birth, race, descent, γε,εά, birth,

race, generation, descent, γένος, race, stock, generation. Of words denoting mental generation derived from this primitive root, may be mentioned γμνωσκω I know, perceive, mark, am aware of, see, understand, γνωσις inquiry, knowledge, deeper wisdom, and others too numerous to mention. In Latin we find it in the forms of *gigno,* to beget, bear, bring forth, produce, *genetrix,* she who has born, a mother, *genitor,* begetter, father, *genitalia,* gens, clan, etc. Of those relating to mental generation may be recalled *agnosco,* to know or recognize a person or thing, *cognosco,* to know, see perceive, understand, become acquainted with, *cognitio,* knowledge, acquaintance, etc.

In English the root appears in *know* in the sense of physical generation, e. g. "And Adam *knew* Eve his wife; and she conceived and bare Cain," etc. Gen. 4:17. The more common meaning of the words is, of course, that of mental generation or activity. Then there are the derivatives knowledge, knowable, etc. In vulgar Swedish there are words, derived from the same root, denoting the sexual act. A mere hint at, or brief explanation of, the psychological causes of the differentiation of word-roots into such divergent stems will prove interesting and profitable to the wide-awake student. Being informed that such differentiation of words, both as to form and content, is due to certain well-known laws of mind, viz., the laws of association, e. g. the law of similarity, dissimilarity, contradiction, etc. said student may, in this incidental way, conceive a life-long love for such an exceedingly illuminating and fruitful science as psychology. A richer, deeper meaning of words, and a profounder insight into the race-soul is unquestionably his reward.

When school-age is attained spelling should be judiciously made to contribute towards an enlarged vocabulary. In this respect, Dr. Doran's practice seems a good one. "It was my custom as teacher in the public schools," he says, "to require pupils of all ages to spell, and to know the meaning of the words they spelled. Why should we ever learn to spell a word whose meaning we do not know? We cannot make any use of the word until we grasp its meaning. It is vastly more important to know the meaning than to know the spelling, for we may correctly use a word orally which we cannot spell. In fact, most people speak a hundred words to one they write." Both written and oral tests in spelling, with the definition of the words, have proven exceedingly helpful.

But no language should be taught without severe and prolonged exercises in scientific phonetics. It is really a great pity that this subject has, so far, been almost neglected. It is

still a very young science—A study of each sound, constituting the word, and represented, though inadequately, by a certain letter of the alphabet, will give the student such an intimate and minute knowledge of the word that it will leave an indelible impression on his mind. He will then become conscious, for the first time, of the fact that the graphic or nomic symbols merely mirror his vernacular as it was spoken many centuries ago, while the phonetic represent quite closely the actual speech of today. The two sets of visual images, the graphic and the phonetic, will also fix the word more firmly than one, just as two properties of an object may better aid in recalling it, than one only. This study will, furthermore, develop self-observation and self-criticism, without which a correct pronunciation and clear articulation can never be acquired. The pleasing art of a clear, distinct articulation is extremely rare today, and as a result we have poor readers and speakers.

Moreover, the discovery that the sounds composing a word, and even those juxtaposed in different words in a sentence, as in French, influence and modify one another, will be to the learner an interesting revelation. One is so easily the dupe of orthography. Few people indeed are conscious of their own pronunciation. But phonetics will show how a sonant consonant may impart to a neighboring mute its sonant quality, and vice versa. The phonetic phenomena of assimilation, progressive, regressive and reciprocal, will flood the living word with a new light. This fact may, by way of diversion, be utilized by the instructor to impress a useful lesson in character-building. Phonetics thoroughly mastered will also deepen one's insight into the nature of voice. From the objective point of view of physics, anatomy, and physiology, voice will be seen to consist of "the various combinations of air-waves which affect the auditory mechanism of the listener," while under its purely subjective aspect one may detect in it a "spiritual issue," as Emil Sutro concludes after many years of indefatigable experimentation on himself. (cf. "Duality of Thought and Language," and "Duality of Voice," by that author.)

Supt. J. M. Greenwood shows by a simple test of himself, while a young teacher, what early attention to the meaning of words can accomplish. He says that once he marked all the words in Webster's Academic Dictionary whose meaning he did not know. He found only 68 out of about 10,000 contained in it, and, of course, immediately learned their meanings.

Pres. Charles W. Eliot tells, in an article on Benjamin Franklin, how this self-educated man enlarged his vocabulary. "To improve his vocabulary," writes Pres. Eliot, "he turned specimens of prose into verse, and later when he had forgotten the original turned the verse back into prose. This exercise enlarged his vocabulary and his acquaintance with synonyms and their different shades of meaning, and showed him how he could twist phrases and sentences about. His times for such exercises and for reading were at night after work, before work in the morning, and on Sundays." (Science, June 1, 1906.)

In our graded schools and colleges a severer discipline in composition should be required, and one of its most important features ought to be a ceaseless endeavor to use the right word in the right place. Precision, accuracy, and clearness of expression, absolutely essential to the best diction, can be attained in no other way. Such a habit, early established, will result in a large and choice vocabulary. But such an ideal cannot be attained under present conditions. As far as remuneration is concerned intellectual labor is at a heavy discount at present. To save money all schools require too large classes. Teachers are too few and many of inferior talent and preparation. Student readers are often hired for a pittance who cannot properly correct and criticize the exercises submitted. It is easy to imagine the critical work of a college student hired to read two or three hundred class papers at twenty-five cents an hour. If the Olympian gods ever pay any attention to this educational farce of the 20th century there must arise among them "an inextinguishable laughter." No wonder that for many years, all over our land, educators have lamented our poor college English.

A movement recently started at the University of California requiring all professors and instructors to report at the end of each semester on all cases of defective English, is a timely one. But it is no remedy. The only effective cure is more capable, conscientious teachers and smaller classes, admitting of more individual help and attention inside and outside the class-room. Far severer grammatical drill, and analytic study of English are imperatively required than is now the case. All teachers should do their part in creating a higher standard of college English. This, of course, would involve the elimination of foreign teachers who never mastered English, and natives with a poor record in their vernacular. No words whose meanings are not perfectly clear to the student should be passed over in any subject, without being accurately defined.

THE CLASSICS AS AN AID IN ACQUIRING A VOCABULARY

During the last thirty years there has been a strong reaction against the classics. Purely cultural subjects have had to give way to practical ones. Our age appreciates most of all material values and our country lacks venerable traditions. All activities must have a direct economic bearing on life. Modern education must create greater material efficiency. Beauty and things of the spirit serving divine self-realization are therefore of secondary importance. Hence classic culture is largely eliminated from the curricula. The classicist laments this trend in education and regards it as an inversion of real values. Sometimes he is in a spirit of grim humour like Dean Swift. He thinks of his voyage to Laputa, and the University of Lagado with its professor extraordinarius of architecture who had conceived a brand-new method of erecting all sorts of buildings by starting up in the air with the roof and body of the building downwards. But a return to the classics may safely be predicted when our country is older and things of sense no longer meet our highest aspirations.

The value of the classics for the mastery of the English vocabulary is self-evident. About one-third is of Latin origin and a considerable per cent of our scientific terms is Greek. Everything else being equal, a native Greek and Latin scholar will therefore be the greater master of the English vocabulary.

As a proof of the value of Greek for one's vocabulary, Dr. Doran's test is quite convincing. "In making the test on Mrs. Crider's vocabulary," he says, "I found three different pages of the dictionary on which she did not know a *single word*. These pages were filled with scientific terms derived from the Greek, and she had not studied Greek. She had a fine training in Latin, and this put her to the front of all those tested, yet two or three years in Greek would have added thousands of words to her vocabulary. Even one or two years in Latin or Greek are valuable in this respect. One who has worked out carefully the conjugation of a dozen Latin or Greek verbs has learned new meanings to hundreds or even thousands of English words. Mr. Meserve, who made the best record in the James Millikin University, has had five years of Latin, five of French, two of Greek, two of German and one of Spanish."

A year or two devoted to Anglo-Saxon, this somewhat unwieldy source of English, would yield an ample reward. The speech of the Angles and Saxons, though lacking in beauty of

form, grace, flexibility, and polish of expression, possesses an inherent strength and a rugged precision that modern English would do well in appropriating. A fair familiarity with its words, prefixes and suffixes would enlarge the vocabulary and make many every-day terms glow with a new light. When we know that the A. S. prefix *be,* for instance, means *by, around,* or has a privative sense, words like bedraggle, bedaub, bedew, bedaff, bedevil, bedight, besmear, besmearch, behead, etc. acquire a more objective and concrete significance. Even such an every-day word as the adversative conjunction *but,* from A. S. *be* + *utan, by* + *outside,* becomes more forcible. Again, when it is learned that the prefix *for* means *loss* or *destruction* words like forego, forjudge, forsake, forfeit, forget, forgive, forbear, etc., become quite luminous.

Take again the preposition *with,* A. S. wip c. dat and acc. which means both *with* and *against,* or *by* and *along,* e. g. "*sumu hie féollon wip weg,*" and, "*hie fuhton wip Brettas.*" In Gothic its form *wipra,* prep. c. acc. against, opposite, in Old Norse it is used as a prefix, e. g. *vidr-gefandi,* one who repays a gift by giving another in return, and *vidrnám,* opposition; in German wider, prep. or prefix, e. g. *wider mich* and *widerstehen, widerstand,* etc. in Greek ἕτερος, the other. Thus the meaning of such verbs as withdraw, withgo, withhold, withsay, withset, withstand, etc. become clear and intelligible. It also illustrates that strange linguistic phenomenon of opposites found in mutually unintelligible languages and entirely independent stocks. In Japanese, for instance, the word jippi means both good and evil. Speaking of American languages Prof. Daniel Brinton says: "In Tinné, a great many words for opposite ideas are the same or nearly the same derived from the same significant elements. Thus, *son,* good, *sona,* bad; *tezo,* sweet, *tezon,* bitter; *ya,* immense, *ya,* very small." Howse finds similar examples in Cree. The radical *eth* in that language meant originally both being and non-being. The Latin verb *sacrare* means both to declare sacred and accursed. Its cognate adjective *sacer* has the same double meaning, and this is also true of its modern French derivative *sacrer.* The English verb *let,* permit and hinder is an intertesting example. "By heaven, I'll make a ghost of him that *lets me,*" (hinders me), (*Hamlet*).

Some scholars are inclined to see in this curious phenomenon an unconscious logic of the human mind, Hegelianism before Hegel. So Professors Brinton and Howison. The word *taboo*

may suggest a simpler solution as it reflects a psychic plane prior to a conscious metaphysical and ethical dualism of being. In man's infancy good and evil or opposites sprang from the same source. Jehovah declares through Isaiah: "I form the light, and create darkness: I make peace and create evil: I the Lord do all these things." (Isa. 47:7.)

The study of vocabularies, a subject usually as dry as dust, may thus become deeply interesting as it is made to yield a rich harvest in the fertile fields of psychology and race culture.

A REPORT ON A COURSE OF STUDY FOR "OPPORTUNITY CLASSES."

By Linus W. Kline

The course of study submitted below, and now being used in the city public schools of Duluth, is a Duluth product planned and tested by Miss Maud Keator in conjunction with the teachers having immediate charge of opportunity classes.

City Superintendent of Schools, Dr. K. J. Hoke, had two classes formed during the school year 1916-17 in conformity to the Minnesota school law for backward pupils. It soon developed that adequate service for such work is confronted, particularly, by two needs: first, a lack of a sufficient number of suitably trained teachers, and second, a tested course of study adapted to the needs of such pupils. To meet the first need, the State has made a beginning by providing a "Teachers' Training Course for Opportunity Classes" to be given at the State School for the Feeble-Minded and at the State Normal Schools. The general requirements of this course for teachers have been determined under the supervision of Dr. Fred Kuhlmann, Director of Research at the School for Feeble-Minded, Faribault, Minn. No concerted plan has yet been devised to organize and test a course of study for "opportunity pupils," and it may not be desirable to do so until more tentative and pioneer work has been completed. Meanwhile reports on work that is being tried and is meeting the requirements should hasten the time when more comprehensive and permanent plans are to be realized.

The report as given here was made at my suggestion by Misses Anderson, Meehan and Thibert, teachers of "opportunity classes." Their names are appended to the report. All three have had special training for such work and from one to three years of experience.

Certain features of "opportunity classes" are being unmistakably recognized; so much so that they form a *sui generis* group in public education. I shall refer to only a few of the features by way of calling attention to problems and difficulties encountered in this new field of teaching.

1. Children under institutional care have but one source of control; they owe allegiance to but one head. The "opportunity child," like all public school children, looks to the school

and the home as sources of guidance and control. And all too often the home of the child is an indirect if not a direct hindrance to its control. Teachers report that the child does well enough while in school but that troubles begin as soon as it starts for home. An attempt to build habits of control under such conditions approaches painfully a sisyphus task.

2. The matter of morale with these little folk is a constant problem for the teacher; not unlike that of the soldier, it may be buoyed up or cast very low by a trifling matter. They are more or less dimly aware of their weaknesses and inadequacies; they have been in a few of the regular grades, perhaps, and now witness their friends and kinsmen go on, begin new work, new subjects, bring home new books and do new things in school. The teachers of these classes must be constantly on the alert to overcome such and many other influences calculated to depress the child.

3. Unlike the institutional child there comes a time when the "opportunity child" must take his chances in the wage earning world; he must be a wage earner as far as his capacity will permit. Teachers report that the course of study as well as the conditions for putting it into operation to meet this demand are still unsolved. It would seem that such a problem requires the coöperation of both the public schools and the industrial interests of a community to effect a proper solution.

4. The matter of sanitation and hygiene calls for greater care and vigilance than in the regular classes. After all, a course of study for these special classes on paper does not deviate to any great extent from those current in our best city schools. The greatest difference will, doubtless, always consist in the methods and spirit in which it is used. The report, here, follows:

In an effort to educate "all the children of all the people" a new class has been created in the public schools of today. Hand in hand with the establishment of classes for the blind, the deaf, the crippled, the supernormal, and the foreigner, has come the class for the mentally deficient, the backward or born-short child. Such classes are known as "opportunity classes." Their aim is to make the most of the capacities and capabilities of each child, at the same time endeavoring to make the misfit child happy in his school activities, which is practically an impossibility in the regular class room.

In this State the legislature has made provisions for the education of such handicapped children. The State bears part of the expense of the opportunity room or rooms and makes certain requirements in regard to teachers, equipment, and subjects taught. Duluth has two centers, the Ely and the

Jackson, containing four and three rooms respectively, besides five single rooms in the Adams, Bryant, Emerson, Lester Park and Monroe Schools.

Children are placed in opportunity classes only after having received a mental test by one especially trained in this line, and a physical examination by a school doctor. The state law provides that pupils having an intelligence quotient between fifty (50) and eighty-five (85) may become candidates for these classes. Those whose I. Q. is less than fifty (50) are institution cases and are not to be placed with the other pupils but rather in the regular class room until provision is made for them. Only fifteen (15) pupils are allowed in each special class.

In the centers the pupils are classified according to grades as far as possible. In the Jackson center, we have three divisions, i. e., First class—with a mental age from four to eight, doing primary work. Second class—with a mental age from seven to nine, doing second and third grade work. Third class—with a mental age from eight to eleven, doing fourth and fifth grade work. Aside from placing the child according to his mental age, his placement depends somewhat upon his physical condition, his training, and his general experience.

Although we are submitting a course of study, those of us who have had classes for several years feel that it is seldom possible to follow the same course for successive years, since the abilities and interests of the children vary decidedly. However, suggestions given in the following will probably aid those who are contemplating entering this work.

READING

AIM: To teach the child to get the thought from the printed page, to use a book intelligently by himself and to be able to relate, interpret or correlate what he reads in relation with his own thoughts and ideas and benefit thereby.

FIRST DIVISION:

The work in this class is practically individual. The abilities of each child vary. Teach the alphabet, sounds, phonograms and words. Combine same into sentences and finally read from primers available in building. Correlate all seat and board work with reading lesson. Build words on desks, build sentences. Cut out pictures from magazines and catalogues and paste in books and print or paste words underneath same. Underline familiar words in old magazines. Use many devices to keep interest of class.

SECOND DIVISION:

Continue phonic drill, study of difficult words, spell new

words, write on board, find in books, make alphabet word lists and little dictionaries. Skip around in story reading to class, pupils find the place. Send class to board, read to them, have them write words given on board, looking at books for the spelling. Ask questions, pupils find answers in book and copy on board. Have written reading language lessons at seats. Dramatize and reproduce stories read. Paraphrase poems. Pupils cite similar instances or circumstances in own lives. Aim to get the thought and give same. Time pupils reading, test for speed and accuracy. Use simple readers and possibly only one or two during whole year. Do not have a study period.

BOOKS SUGGESTED:

Brooks II Reader.
Language Readers II and III.
Fifty Famous Stories:
That's Why Stories.
Short Stories for Little Folks.
Holland Stories.
Animal Life.

THIRD DIVISION:

Aim to read understandingly the printed page of reader, the daily newspaper, the arithmetic problem, the geography lesson and books taken from library or supplementary books found on book shelf in school rooms.

BOOKS SUGGESTED:

Carpenters Geographical Readers.
Jones Readers.
Golden Rule Series.
How We Are Fed.
How We Are Clothed.
How We Are Sheltered.
Stories of Thrift.
Stories of Great Artists.

Physical Training

The physical development of the child is one of particular importance. Our aims are many and varied, such as—alertness, concentration, kindness, respect for others' feelings and rights, exactness, fairness, honesty, gracefulness, lightness, and individual control of movements gained by frequent repetition. The academic work may be varied by inserting games, etc., between classes or when pupils show restlessness or inattention. The monthly outlines of the supervisor will be found very beneficial, and only such games and exercises need be chosen as are suitable to the classes in hand.

In the two upper divisions, the weather permitting, much of the marching, calisthenics, rhythmic exercises, and a few of the games and folk dances may be given successfully on the playground thereby developing and training the child's power of concentration.

FIRST DIVISION:

Such exercises as marching, marking time, clapping hands, skipping, galloping, running, jumping and hopping will serve to rest the child and also develop his muscles. Simple rhythmic stepping exercises with arm movements will naturally follow, resulting in motor coordination and control. Vary the above with such simple games and folk dances as I See You, I Spy, Follow the Leader, Jack-in-the-Box, Looby Loo, The Mulberry Bush, Oh a Hunting We Will Go, Draw a Bucket of Water, The Danish Greeting and The Shoemaker.

SECOND DIVISION:

A continuation of the work given in the first class adding more rhythmic stepping, exercises, i. e. (1) teach step left forward, raising arms forward and (2) marching forward, same with right foot and repeat. Then a three count exercise with arm movement. Also a combination of marching, chain stepping and heel and toe and one, two, three count exercises.

Such games and folk dances as The Shoemaker, Klappdans, Norwegian Mountain March, Swiss May Dance, Yankee Doodle, Run for Your Supper, Have You Seen My Sheep, and others suggested by regular outlines.

Simple calisthenics and breathing exercises may be given. Aim for exactness and team work. Choose a drill or set of exercises and work on each step until eight or more different exercises may be combined and given without direction from the teacher. Allow individual to give exercises and act as directors. This results in more attention, responsiveness and freedom on child's part.

THIRD DIVISION:

Review work of other divisions and add to each phase of the work a few more difficult steps, games, combinations and drills.

Calisthenics: Follow out four and eight count directions and combine with leg exercises.

Marching: Add to former outline a few military steps, the standing jump and more difficult breathing exercises. Front rank count by fours, eights, mark time and circle right and left. Give special attention to correct sitting and standing posture.

Lead up to simple wand and dumb bell drills and more advanced folk dances, as the Tantoli, the Bleking, Rye Step and Seven Jumps.

Books by Marie Hofer, Popular Folk Games, and Dances; Bancroft, Book of Games; Crampton, The Folk Dance Book; Crawford, Folk Dances and Games.

DRAWING AND INDUSTRIAL ARTS

Through the subject of Industrial Arts the evolution of the race may be developed. By project lessons pupils may become acquainted with the principles of industry as these developed with man's desire to adjust himself and the material at hand to his social needs.

The transformation of a raw material into a commercial product through play, curiosity, imitation, imagination and required duties will help the child to understand the activities and processes of manufacture better than the mere reading about or hearing of facts connected with the same.

The following suggestions may be an aid when planning work for special classes. Little grading of work is given owing to the fact that age, physical development, and natural abilities of the child combined with training plus experience necessitate the giving of individual problems.

Endeavor to use the materials at hand. Give as much variety as possible for the interest of the child is a vital point. Constantly repeat until habits are formed. Follow regular outline as much as possible.

No. I. II, III, below refer to divisions mentioned.

WEAVING:

I Rugs, mats, pillows for doll beds, doll hammocks, paper weaving of baskets, boxes, etc.

II and III Hammocks, rugs, baskets, chair caning, reed lamps, standards. In basketry gather materials in field trips. Make study of mediums used, raffia, reed, chair cane, hong kong twist.

MANUAL TRAINING:

I Use of tools, care of material. Make tops from spools, doll house furniture from cigar boxes, stick prints, sawed paste board puzzles, coping saw toys.

II Paste board puzzles, wooden puzzles, jointed toys, stick prints, toys, book racks, trouser and skirt hangers.

III Book racks, plant stands, simple waste baskets, foot stools, stick prints, sleds, wagons, toys, repairing sleds and

chairs, book cases, bunny wagons, etc. Staining, painting, waxing, and varnishing of same. Care of brushes and paints. Sharpening of tools.

Study of Lumber Industry, and the manufacture of Nails.

COBBLING:

III Shoe Repairing, blacking and polishing. Use of tools. Care of leather.

Study: Leather Industry.

NEEDLE WORK:

I Spool knitting, sewing cards, sew on buttons, simple stitches, knitting of blocks. Make bean, marble and button bags. Sew raffia baskets. Crochet chains.

II Various stitches on samplers. Sew on buttons, button holes, carpet rags, holders, aprons, skirts. Crochet simple laces, face cloths, holder, knitting. Begin sewing on machine with paper.

III Continue II's work. Sew towels, bags, mitts, carpet rags, blocks for quilts, aprons, dresses. More advanced knitting and crocheting. Machine Sewing. Feather stitching.

Study: Cotton Plant, Silk Worms, Wool Industry, Story of Flax.

CLAY MODELING:

I Model blocks, animals, dishes, correlate with other subjects.

II Paper weights, tiles, animals, bowls and clay moulds.

III Designs on bowls, vases, etc. Animals. Make one and two piece moulds.

Study: Indian Pottery. Modern Methods. Utensils of Race, Manufacture of bricks, tile, concrete, experiment with common and prepared clay.

BOOK MAKING:

I Simple records kept. Simple sewed booklets.

II and III Advanced booklets. Make book if possible. Print alphabets, mottoes, verses. Illustration as a means of expression.

Study: How Race Puts Itself on Record.

Make paper.

Make Blue Prints.

Visit Newspaper Plant.

CONSTRUCTION:

I Paper boxes, furniture, houses, churches, toys.

II Use of ruler. Follow dictated directions. Make envelopes, boxes, original model.

III Boxes, bags, desk sets, desks, envelopes.

Design same.

Do paper tearing and cutting, designing, painting, crayon illustration and picture study whenever same can be correlated with the above.

COOKING:

Care of room and supplies.

Use of equipment.

Study of foods and their values.

Preparation of simple meal.

Manners at Table.

1. Make boiled desserts, baked apples, baking powder biscuits, candy and soups.

II Same as I. Add cookies and cake making. Cooking of vegetables.

III I and II and jelly making, pie crust, fondant and possibly ice or ice-cream. Short cake.

Repeat lessons until pupils can make accurate measurements and can make the recipe without help. Probably only eight or ten different recipes can be made in year in each class.

For Example, Baking Powder Biscuits;

1/3 c. flour.	2/3 t. B. Powder.
1/6 t. salt.	1 t. butter.

2½ T. milk.

Method: Follow directions given.

1. Mould with spoon.
2. Mould with cutter.
3. Drop into gem pans.
4. Add raisins.
5. Add raisins, make hot cross buns.
6. Omit raisins, add 1 t. sugar.
7. Same as 6. Make strawberry short cake.

Same may be done with almost all recipes given to the class, the constant repetition makes an impression, nothing else does. The variation keeps the interest.

Washing and Ironing may be taught the older pupils. They are very fond of it.

STUDY:

Duluth Universal Flour Mills, Bridgeman Russell Plant, Zinsmaster Smith Bread, Yale Laundry. Visit each.

BOOKS SUGGESTED:

School Arts Magazine.
Industrial Arts Magazine.
Library of Work and Play.
Primary Handwork; Dobbs.
Raffia and Reed; Knapp.
In the Child's World; Poulsson.
Suggestions for Handwork in School and Home; Hoxie.
Fine and Industrial Art in Elementary Education; Sargent.
Talks on Drawing; Colby.
How Children Learn to Draw; Sargent.
When the World was Young; Brown.
Correlated Lessons in Language and Occupation Work; Dyer.
Primary Manual Work; Ledyard & Breckenfield.
Practical Raffia and Artistic Basketry; Tinsley.
Beautiful Pictures to Paint and Draw; Platt & Peck Co.
Manual Training for Common Schools; Allen & Cotton.
Coping saw Work; Johnson.
Cigar Box Furniture; Carr & Brady.
The Little Girl's Sewing Book; Klickmann.
Handicraft for Girls; McClauflin.
Basic Principles of Domestic Science; Lilla Froch.
Our Country's call to Service; Studebaker.
Official Recipe Book, State of Illinois.
Food Saving and Sharing, U. S. Food Administration.

MUSIC

Song singing should be encouraged and given a daily place on the program.

Rote singing with kindergarten, patriotic, old home songs, folk songs of various nations, songs suitable to different seasons and many approved popular airs, should be chosen.

A short music period, with suitable songs should be given to the younger children and a longer period should be given to the older ones, as a General Assembly time.

THE AIM OF THE WORK IS:

1. To develop a love for good music.
2. To develop a sense of rhythm.
3. To secure pleasing tones both in singing and talking.

METHOD:

Sense training, much listening and rote singing of songs within the pupils' ken, are some of the means employed to secure a range of sound concepts.

(a) Rhythm—

A development of the feeling for and ability to express rhythm in bodily movements is greatly helped by stepping exercises, folk dances, written expression on the blackboard to illustrate time, etc. Illustrate with "Tulip Song, Owl Song," from Gaynor Book.

(b) Ear Training—

Good attention to this results in an appreciation of and discrimination between musical sounds. Here the phonograph can play an important part. The pupils may be trained to listen for familiar melodies, different musical instruments, distinctive kinds of voices, etc. Also short phrases of songs or compositions may be sung, or played for the pupils for recognition.

(c) Voice Training—

This is greatly helped by the proper use of the voice and ability to sing many songs. The children enjoy singing alone or in groups and with much judicious praise are encouraged to do this often.

(d) Harmony—

Some training can be given in this by singing rounds, having pupils play simple accompaniments for the songs or establishing a little orchestra. The children should be encouraged to play on different instruments alone or in groups if they have any talent.

MUSIC APPRECIATION:

By singing good songs and hearing good vocal and instrumental compositions a taste for the best music will be cultivated.

By listening to good phonograph records, suggestions are gained for the proper interpretation of songs.

A phonograph with our best records of operas, singers, etc., is a powerful teacher and should be used often during the music periods.

Such suggestions as—

1. The story of the selection.
2. A few brief descriptions of the singer.
3. An explanation of the musical instruments.
4. Attention to the time.
5. Class listen sometimes with closed eyes.

All this will keep the attention and make the lesson more valuable.

Rhythmic movements with music are powerful stimuli to the mental activity of the exceptional child. Their use should be constantly increased.

BOOKS SUGGESTED:

1. Use the Supervisors outlines as much as possible.
2. Gaynor Books.
3. Modern Books.
4. Progressive Books.
5. 101 Best Songs.
6. 55 Songs.

LANGUAGE

PURPOSE:

To convey thought and feeling.

To assist the child in learning to express himself more accurately and completely.

For the pure pleasure of self expression.

ORAL WORK:

Much oral work should be done in all the classes and conversation is one of the most essential factors.

In the beginner's class sentence building in dialogue form is very helpful, as "Who came to school early? It was I."

Much material for oral work can be furnished by—

1. Descriptive guessing games, as "What man am I thinking of?"
2. Games drilling on uses of pronouns, as "John and I are ready."
3. Picture study.
4. Stories and rhymes.
5. Nature study.
6. Descriptions of familiar things.
7. Dramatization.
8. Word games.

For the next division the same helpful suggestions may be supplemented by:

1. The study of good poems and memory gems.
2. Training in courteous forms of speech: "I thank you, if you please, excuse me."
3. Word study: Homonyms, synonyms, rhyming.
4. Excursion, and talk on walks to school and parks.
5. Exercises giving the correct usages for are, was, were, see, saw, she, her, we, us, I, me, he, him.
6. Drills with irregular verbs, as break, broke, broken, lie, lay, lain.

With the oldest pupils much of the foregoing is very helpful also. Then Current Events forms an interesting basis for short talks on happenings in the world.

WRITTEN WORK:

For the lower classes, these suggestions may be followed with good results:

1. Dictation sentences using words for daily lessons.
2. Write names and addresses, names of places, days of week, months, holidays, dates.
3. Copy short poems and paragraphs. The children have a difficult task in copying anything correctly so they may be given simple imaginary stories to copy from the blackboard after the class has formulated the thought together.

Also short descriptions from work in the class, and simple riddles.

The upper division can do:

1. Simple letter writing, both friendly and business.
2. Observe simple forms for written work, margin, title and paragraph.
3. Learn principal uses for question mark, capital, letters, periods, commas, question marks, abbreviations, contractions, etc.

BOOKS SUGGESTED:

Language Book, Aldine.
Lessons in Language, J. N. Patrick.
Speaking and Writing, Maswell.
Language Games, Myra King.
Story Land, Clara Murray.
Aesop's Fables, Grimm's Fairy Tales.
How to tell stories to children, Sarah C. Bryant.
Primary Language Lessons, Emma Sarl.
Favorite Folk Tales Retold, Julia Cowles.

FOR PICTURE STUDY:

How to Enjoy Pictures, W. S. Emery.
How to Judge a Picture, J. C. Van Dyke.
Child's Guide to Pictures, C. H. Coffin.
Pictures Every Child Should Know, D. Bacon.
Famous Pictures, Barstow.
Addresses for Penny Prints of Famous Pictures:

1. University Prints, Newton, Mass.
2. Elson Print Co., Belmont, Mass.
3. Fenny Print Co., Malden, Mass.

AIM: Legibility. PENMANSHIP

Helpful suggestions:

With the youngest pupils the following method of procedure is very helpful.

1. Trace imaginary letters in the air.
2. All beginning work should be on blackboard with large and varied movements. Rhythmic movements can be used.
3. Similar exercises on paper with large pencil.
4. Use tracing.
5. Forming of simple letters—a-o-c-d-g—etc.
6. Combination of easier letters forming words in lesson. Copy.
7. As the Zaner method of Writing is used in the grades, those outlines should be used as much as possible to carry on the penmanship work, with all the pupils.
8. Encourage healthful position and ambition to do standard work.

NATURE STUDY

AIM: To interest the children in their surroundings.

To make them observant and willing to help, whenever possible, in the development of seeds; treatment of animals; birds, insects and plants. Encourage the children in talks and walks to call by name; trees, shrubs, birds, flowers, weeds, insects, etc., which they see by the way.

Get stories and poems to correlate with nature study. This work can be divided in an interesting way into studies according to the seasons.

Autumn—

Trees; their names, uses, seeds.
Flowers, wild and garden; their uses and cultivation.
Vegetables, names uses, cultivation, parts used.
Make collection of seeds, leaves and cocoons.
Insects; useful, injurious; study one in particular.
Seeds; study of one kind.
How plants, animals and birds prepare for winter.

Winter—

Study trees in winter.
Make bird houses.
Forms of water; snow, draw crystals.
Ice, frozen water; use of ice, steam vapor.
Make a study of animals useful to man with reference to our clothing and food.

Spring—

Attention to swelling buds.
Study the winds; kinds, effects, etc.
Returning birds; what they do for us.
Pussy willows.
Fly; why it is our enemy.
Spring rains.

Early flowers.
Preparation of home garden, care of it.
Study tad-pole, cocoons, garter snake.

BOOKS SUGGESTED:

Seed Babies, by M. W. Morley.
Seaside and Wayside Series.
Among the Meadow People, Pearson.
Among the Forest People, Pearson.
Among the Pond People, Pearson.
Wild Flowers Every Child Should Know, Stack.
The Water People, C. L. Sleight.
Mrs. Wilson's "Nature Study."
Tree-top and Meadow, L. B. McMurray & A. S. Cook.
Our Common Insects, Baker.
Little Brothers of the Air, Olive Miller.
The Bird Lover in the West. Olive Miller.
Stories of Trees, Mrs. Dyson.
All the Year Round Readers.

I DIVISION: GEOGRAPHY

Simple Home Geography.

Lessons on land and water forms, using sand tables and taking field lessons. Classes may be taken to different parts of the city for lessons in this work. Correlate Geography and language.

See Minnesota Course of Study, page 128.

II DIVISION:

Select topics from Course of Study on 3rd grade work. The study selected will depend upon children's experience. "The Indian Child" makes an interesting study. Basketry may be studied at the same time. Children begin to do some outside reading for themselves. Teach them how to look for things in a text.

The industrial growth of Duluth may be studied. Children may be taken to factories. Much use can be made of the lantern slides. The views are to be taken up in class work and recitations prepared to be given while showing the slides. Pictures on the dairy industry may be studied before and after visiting the Bridgeman Russell Plant.

Field lessons are always full of interest. Observation Park, Park Point, Chester Park and many other places give material for many observation lessons to be used as geography and language lessons.

The geography given to those pupils can be given best in story form. Stories should be illustrated as they are told or

read, and the places referred to should be located on maps. They may find maps in some simple text, and they enjoy locating places. Contests may be arranged in this work.

The Minnesota Course of Study, pages 128 and 130 gives some problem work that may be attempted.

III DIVISION:

Geography is combined with history, Current Events and Americanization work.

Suggestions given in the Course of Study for 4th and 5th Grades are used and as much correlation as is possible with the Industrial work is arranged.

A few pupils take some interest in current affairs, and all are interested in incidents of war, the Peace Conference and industrial changes brought about by the war. Types of aeroplanes, boats and submarines appeal to the boys.

Current Events, National School Service, Americanization Program, magazines and daily papers are all useful. Pupils may clip current events and paste them on a bulletin board and classify as home, county, state, or foreign news.

Place geography is studied as a background of human action. Pupils take pleasure in locating places, industrial sections, etc.

See Minnesota Course of Study, page 282 on racing.

The use of the stereoscopic views followed by the lantern slides are continued with these classes. A boy may be taught to operate the lantern. This makes a pleasing exercise for Friday afternoons. The teacher may select slides that give material connected with industrial work or with any country studied, or a historical picture.

Field lessons should be continued. A visit to a brush factory, match factory, rug factory, ore docks, shipyards, etc., will afford material for many lessons.

Children are interested in the early history of Duluth and in the people who helped to make this history. Biographies selected from American and World history are studied.

Simple problems in geography may be given. The pupils enjoy attempting to solve the problems even if they cannot do much reasoning.

The story of the Crusades is interesting in connection with the Health Crusade.

The great problem for the teacher is not to find material but to find time in which to use what is available. Duluth is rich in geographical material.

Books on historical and geographical subjects may be borrowed from the Public Library. Poems based on historical events may be learned in connection with the reading. The

Concord Hymn, Paul Revere's Ride, Marching Through Georgia, etc.

Patriotic selections and quotations help to develop a patriotic spirit.

A list of helpful available material is given with the Reading Outline for these classes, the Course of Study in Geography, Classification of Text Books, and the Course of Study in History and Civics.

PHYSIOLOGY AND HYGIENE

The following outline may be used with the III division and parts of it adapted for the I and II divisions:

Principal parts of the body—
- Head,
- Trunk,
- Upper limbs,
- Lower limbs.

Covering—The skin.
- Use:
- Care—Keep clean.
  - Bathing—When.
    - How often.
    - How.

The head—
- Position and parts.
- Care of hair, ears, eyes, nose, teeth, (elaborate).

Trunk—
- Use—general, to hold together all parts of body divisions.

Upper limbs—
- Hands.
- Uses of hands—Work (elaborate).
  - Carrying food to the mouth.
  - Protection.
  - Care of hands (elaborate).

Lower extremities—
- Position.
- Uses—Running, walking, jumping.
- Care (elaborate).
  - Posture of body in sitting and standing.

Special attention to—
1. Exercise, outdoor and indoor.
2. Ventilation, day and night.
3. Values of certain foods, milk, vegetables, etc.
4. Clothing, clean, suitable.
5. Respiration exercises.
6. Effects of tobacco and alcohol habits.
7. "Safety First" habits.

ARITHMETIC

The course of study for the regular grades is so rich, complete and full of suggestions in all subjects that there is very little if anything to be added by the special class teacher. A teacher who is alive to the situation can select and eliminate to meet the needs of her particular class.

By following the essential points in the course of study in arithmetic, the pupil feels that he is getting the work of the regular grade, and he is able to compare the character of his work with that of his friend who is doing grade work. The resourceful experienced teacher will find plenty of material through selection from the regular course of study, and will always have some new way of presenting this material that will make her pupils happy and always keep a pleasing atmosphere in her classes.

I DIVISION:

Follow course of study as far as possible. The work must be varied and interesting as in a class of normal children. However, the methods of stimulating the child's interest must be made more attractive than to the ordinary child. The subnormal child lacks the power of voluntary attention. Drill on counting and combinations must be given much attention using concrete illustration until simple combinations are mastered. Blocks, balls, pegs, toys, beanbags, or any available material may be used.

II DIVISION:

Drill on fundamental operations using various devices, Maxson's Self-Keyed Fundamental Number Work, published by Self-Keyed Number Work Company, Yonkers, New York, is excellent for drill and the work may be quickly checked. Any device attractive to normal children may be used with these children. The contest work is valuable. Practice tests by Courtis and Studebaker Economy Practice Exercises are valuable aids in keeping up interest and developing speed and accuracy.

Problems involving the making of change appeal to the children, advancement is made according to the child's ability. Each teacher at the present time uses her own judgment regarding the things she can best afford to eliminate from the course of study. A little concrete work can be done and should be introduced as early as possible. After the table of 3's is learned pupils may analyze simple problems in multiplication. If one book is worth 10¢, 3 books are worth 3 times 10¢ or 30¢. Problems will vary with different classes. Good

sentences should be a part of arithmetic work, thus correlating language and arithmetic.

III DIVISION:

The pupils of this class usually come from the intermediate grades and have had some years of school experience. The plan must be varied according to the advancement of the pupil, simplifying it for one and amplifying it for another.

Continue the drill for accuracy and speed in the fundamental operations. The same practice material may be used as is used in the Second Division. A simple text may be put in the children's hands. Simple concrete problems should be given according to pupil's ability. The pupils have very little reasoning ability.

Fractions, denominate numbers, simple interest can be given; banking, cost of cooking material, shoes, clothing and other expense accounts make interesting problems.

SPELLING

In a general way an attempt is made to follow the Duluth Course of Study, but as very few of the children will ever attend a regular grade again, their individual needs must be met by adapting the course of study to them rather than by following the usual plan of fitting the pupil to the grade.

A course of study can merely suggest. Wide latitude must be allowed the teacher in adjusting the work to meet the unusual conditions and exceptional types.

Spelling is one of the fundamental elementary school tools and should be taught with as much economy of time and energy as possible and should lead to applied work.

Sub-normal children of the border line class have fair ability to do memory work and can be trained to put forth considerable effort on study by memorizing. Many devices for study that appeal to the children in various ways through eye, ear, voice and muscular sense should be used.

Words should be taken from their daily experiences as well as from their lessons both in academic and in industrial work. The older children find it interesting to make their own spelling books on the dictionary plan, leaving two or three pages for each letter and supplying pages as their vocabularies grow. They add words taken from current affairs, e.g., "*armistice*" and "*conference*" have just been added to their lists.

Much time should be given to the discussion of the words with the pupils to help them over the hard spots in spelling. They enjoy coloring the letter that troubles them, *a* in separate, *g* in oblige, etc.

Pupils should learn to spell words familiar to them rather than words not likely to be used by them. Franklin Bobbitt says, "The intensive study of no word can be justifiable until after that word has become a portion of one's active vocabulary, at least, the reading vocabulary."

The habit of careful reading of every written word needs to be cultivated. Many times a word is correctly written near the beginning of a paragraph and later spelled incorrectly in the same paragraph. They can memorize the words to spell orally or in written lists, and then often spell them incorrectly shortly afterwards in written composition, this application is the real test of spelling. Much repetition is necessary.

Many pupils cannot copy accurately, copying paragraphs from a text helps to overcome this trouble, it may take many attempts before the work is done well.

Dictation exercises are good drills.

As a rule a text in spelling is not necessary for sub-normal children. However, anything that makes for variety is conducive to the children's happiness. One class was delighted when given the Alexander speller and took pleasure in finding the familiar words in lists assigned to different grades. They are anxious to learn their own grade abilities in different subjects.

The simpler rules of spelling may be taught to the older pupils. Any exercise that has a contest element in it is valuable for stimulating interest. The teacher of special classes must be ever on the alert for methods to make her work attractive and interesting.

Spelling should be taught with a view to its use in learning or doing something else, not merely as an end in itself. Every spelling lesson should be a language lesson.

MORAL TRAINING

Deficient children must learn by frequent repetition and habit, the lessons which normal children acquire through reasoning and comprehension of consequences.

Therefore, character building must be a source of constant vigilance with the special teacher.

Respect for the rights of others, thrift, pleasing personal habits, helpfulness, cheerfulness, obedience, power of initiative, defects of posture, gesture, speech, etc., are all problems of special difficulty.

By using stories, rhymes, hero-worship, dramatization where ideals are lived, the direct and indirect suggestions may be used for good and the imagination stimulated.

REFERENCES:

1. Golden Rule Series of Readers.
2. Seguin on Moral Education.
3. True Citizen.

Conclusion

As Special Classes for sub-normal children have been organized in but comparatively few locations in the United States, and many of them are still in the experimental state, there is an absence of anything like a complete Course of Study for such classes.

Teachers who have had experience in this line of work are not anxious to have a definite course outlined. They feel that with the elastic conditions that now exist there is room for each teacher to put her own individuality and ingenuity into the work. However, if a definite course be outlined, it should not demand that a limited time be allowed for the completion of any given part of the work, as allowance must be made for individual differences in children.

Teachers who are about to enter the work have expressed a keen desire for something in concrete form to base their work upon. It is for the benefit of such teachers who are taking up the work in the Duluth Schools and elsewhere that these suggestions are offered. They are given only as suggestions and with the hope that they may be a source of encouragement and a tentative help to teachers who are planning to teach in Opportunity Classes.

It will take time to educate the public to the fact that the pupils of the Special Classes ought not to be put in regular grades, for this reason, there is a demand that the Opportunity Classes be given the work of the regular class, and it seems best to adapt the course of study as far as is possible to the graded course of study in academic and industrial work. It encourages the children too, to know that they are doing the same work as their friends in the regular grades and at the same time doing a number of other things along industrial lines that their friends are deprived of doing. Any condition that creates a happy frame of mind in the children should be provided for.

There is no reason why any cheerful, experienced, conscientious, sympathetic, resourceful, grade teacher should hesitate to give her services to the improvement of pupils in Special Classes—it is to encourage such teachers to take up this work that these pages are respectfully submitted.

(Signed) Katherine Meehan,
Cloe M. Thibert,
Nellie T. Anderson.

PUPILS' OPINIONS AS TO THE RELATIVE WORTH OF DIFFERENT METHODS OF TEACHING EDUCATIONAL PSYCHOLOGY.

By J. Mace Andress

One of the difficulties in the art of teaching is an ignorance of the relative worth of the methods which we employ. As teachers we all perhaps are somewhat prone to have faith that the ideals we have set up are the best and that the methods we have used result in a large measure of success. As teachers, too, we are also apt to disregard or remain in dense ignorance of the opinions of the pupils whom we teach. Yet with all the vast gap which may exist between the maturity, insight, and professional view of teachers and pupils, it is obvious that the opinions of pupils have some significance. The teacher who knows the opinions of his class knows something about their attitude, at least, and that is often invaluable. Then, too, a knowledge of class opinion may confirm his methods of teaching or in part perhaps lead him to question results which he believed had been achieved. The purpose of this paper is to present briefly the judgment of seventy-nine pupils of the Freshman Class of the Boston Normal School as to the relative effectiveness of methods of teaching used by the writer. Before considering the investigation itself it would be well perhaps to review briefly the nature of the course given, its aims and methods.

It is obvious that the teaching of psychology should be dominated by definite and practical aims.[1] The purpose of the normal school itself suggests that the psychology taught should assist the teacher in her work. An essential feature of all teaching is learning. No matter what the teacher may say or do, if the children do not learn, no teaching has taken place. Before the advent of child study it was common to think of the teacher as one who taught subjects like arithmetic and history, but now all careful students of educational problems realize that the verb teach has two objects. The teacher not only teaches perchance history or algebra but she teaches somebody, John or Mary, for example. It is the belief of the

[1] See Andress: "The Aims, Values and Methods of Teaching Psychology in a Normal School." *Journal of Educational Psychology.* Dec. 1911.

writer that the study of *psychology in a normal school should lend itself to a sympathetic and intelligent study of John and Mary, particularly to the way they learn most effectively.* To get an insight into the learning process of children makes possible the *second great goal of educational psychology,* namely, *the formulation of practical principles of teaching.*

Four periods of 45 minutes each are devoted to the course in the first of the three years of the Normal School course. In all except one of these periods, which is given over to the lecture, the class is divided into five sections. Although the work of these four periods is dovetailed together in conformity to the aims just mentioned, there are in reality two courses which might be designated courses A and B. The following scheme shows the general character of the whole course:

	Time	*Scope*	*Purpose*	*Common Purpose*
A.	Lecture (one period)	Covers mental development of child.	Discover how child learns.	*Formation of principles of teaching children.*
	Whole Class Quiz (one period)	Discussion of lectures, reading, and child observations.		
	in sections			
B.	Class Experiments (two periods consecutively)	Experiments correlated with practice and class discussions.	Discover how pupils learn, so as to better appreciate the child's difficulties.	
	in sections			

In trying to achieve the aims suggested the writer has made use of five different methods.

The first method is that of the *class experiment.* Although normal school pupils have been learning longer than they can remember they have studied their own learning process little if any. They have forgotten how they learned some of the most important things of life such as reading, writing, oral speech, etc. Not only are they quite ignorant of the elements involved in learning but they fail in large measure to appreciate the problems which every learner faces as he tries to master something new. In a series of experiments the pupils find out the nature of learning by trial and error through trying to trace stars by looking at the hand and star outline in a mirror. A more involved learning process necessitating usually some reasoning is brought out by trying to open and shut the Healy Puzzle Box. Pupils get a first-hand acquaintance with the psychology of habit by actually forming a habit [2]

[2] For a more detailed description of this phase of the course see Andress: "The Study of Habit in a Course in Psychology (With Special Reference to Health Habits)." *The American Journal of School Hygiene,* Sept. 1917. "Adventures in Habit Formation," *The Boston Teachers' News Letter,* June, 1919. "The History of the Breaking of a Bad Habit," *The American Journal of School Hygiene,* Sept., 1919.

such as cleaning the teeth, arising at a particular time in the morning, correct posture, etc. Starch's "Experiments in Educational Psychology," (MacMillan Co.) is the basis of the experimental work, although experiments other than these from the rich field of experimental psychology are used freely. All experiments are carefully selected. Only those which would seem to give some practical insight into the learning process are chosen. Serious effort is made to get results of human value and to avoid a worship of method. The experiments are written up with care by the students. Some of the generalizations are made in class when the experiment is performed, but something in the way of generalization, is always left for the pupils. The necessity of careful conclusions based on facts is clearly emphasized throughout the year. About one-third of the entire time of the course is devoted to class experiments.

A second method is the *observation of children.* It is evident that an intellectual and sympathetic knowledge of childhood is necessary for successful teaching. Too often courses in educational psychology ignore this aim, or, if sought, it is hoped to be attained exclusively through laboratory or lecture work or through copious readings. The study of the child himself is disregarded. Such a study seems necessary if a human attitude and relationship toward children is to be built up.

Many entering pupils are quite familiar with children because they come from relatively large families and often have brothers and sisters younger than themselves. Such experiences are invaluable because of the natural association which has sprung up between them and specific children even if their contact with children has not led to something like systematic and scientific observation and to conclusions of great worth to pedagogy. A large proportion of the class has had little direct contact with children for many years, some being only children of a family. If questioned they are likely to admit that they feel ill at ease in the presence of children, that they neither know what to do or say. Both classes of pupils—those who have little or much direct contact with children—have slight intellectual or psychological insight into child life. Sometimes frequent association with children may have an unsuspected influence as students guided by the opinions of their elders may have absolutely erroneous opinions of children. Much effort is required by the teacher of psychology to remove these prejudices. The ordinary normal school girl aged 17 or 18 years who is just beginning her professional career has interests that are as far away from those of little

children as the poles of the earth. To most of these students childhood presents a world almost as strange and foreign as that of the Australian Bushmen. This world needs to be approached with caution and so studied and investigated that it loses its foreign aspect and takes on additional color and charm.

As in botany or geology pupils are required to study plants and rocks and mere textbook work is considered an ancient and fruitless device, so in our work in educational psychology students are required to observe children. Each pupil observes one child throughout the year; in the second half year pupils are asked to observe an additional child or perhaps through a series of visits to investigate some special problem of child psychology or child welfare such as the training of children who have speech defects, how the city deals with its juvenile delinquents, the education of the blind, deaf, feeble-minded, etc.

For the observation of individual children McMannis's "The Observation of an Individual Child" (Warwick and York) furnished a helpful outline although it is supplemented by copious suggestions. Every child is studied from the point of view of his heredity, home surroundings, health and mental development. The author has found some excellent observations on the vocabulary, morality, drawing instincts, gang impulses, etc. of children. The child in school cannot be studied to advantage because of the artificiality of his surroundings; therefore pupils are asked to make practically all their observations on children outside of school and while they have no suspicion that they are being observed. Pupils are also encouraged to do a little in the way of teaching little children something, as, for example, a game, simple handwork, etc. A rough notebook is kept to record all observations made, and from these facts a paper having a specified amount of organization is prepared at the close of each semester. Such a concrete study of children is believed to inspire a living and intelligent interest in children which will be of inestimable value professionally.

One fourth of the time of the course is devoted to a *lecture* There is one lecture of forty-five minutes every week throughout the year. The lectures concern themselves with the problem of how the child learns. Topics considered are as follows: the significance of infancy, the physical differences between the child and the adult, learning defined, the relation of health to learning, the development of the child's senses, the instincts and how they may be directed, the development of language, drawing, dramatization; and at the latter part of the year the psychology of school subjects such as reading, writing, draw-

ing, number, and oral and written English. The lectures seek to avoid technical terms so far as the purpose of the course will permit. The language is simple and to the point. Summaries are always made at the close of any large division of the subjects. The observations being made of individual children are studiously referred to both to make the lecture interesting and connect it with real life, and also to guide the observation. The results of the class experiments performed are also woven into the lectures. Infrequently slides are shown and class experiments are performed in connection with the lecture. So far as possible readings are assigned in Kirkpatrick's "Fundamentals of Child Study" to run parallel with the lectures.

The fourth method is the traditional one of assigning *reading* from text-books and reference books. Colvin and Bagley's "Human Behavior" (Macmillan) is assigned in connection with the class experiments. Kirkpatrick's "Fundamentals of Child Study" runs parallel with the lecture. Many suggestions are given as to valuable references in the library but no assignment is required except the chapter on habit in James's "Psychology." It has been the belief of the writer that beginning students in educational psychology are unprepared to do much reading, partially because of the newness of the field and partially because of the many new technical terms that are used; it is also no exaggeration to say with no reflection on the authors, that practically all textbooks are written in such a style that they are exceedingly dry for young people. Therefore a large amount of reading without careful preparation through experiments and observation and definite assignments will be apt to arouse a profound dislike for the subject.

The *class discussion* represents a sort of clearinghouse for all the other activities of the course. Here the class experiments, observations of children, the lectures, and reading are gone over somewhat in detail. One entire period of the week is devoted exclusively to oral tests and class discussion relating to the reading in Kirkpatrick, the observation of children, and the lecture. The character of this discussion naturally changes somewhat from week to week. In a double period devoted largely to experiment there are tests on the reading in Colvin and Bagley's "The Human Behavior" and the experiments. In a discussion of the reading the instructor is not satisfied merely to get the pupils to report accurately what is in the book but to organize their facts, to get a new synthesis, to see the problem presented in the book from a little different angle or to apply the knowledge thus gained to some concrete and practical problem.

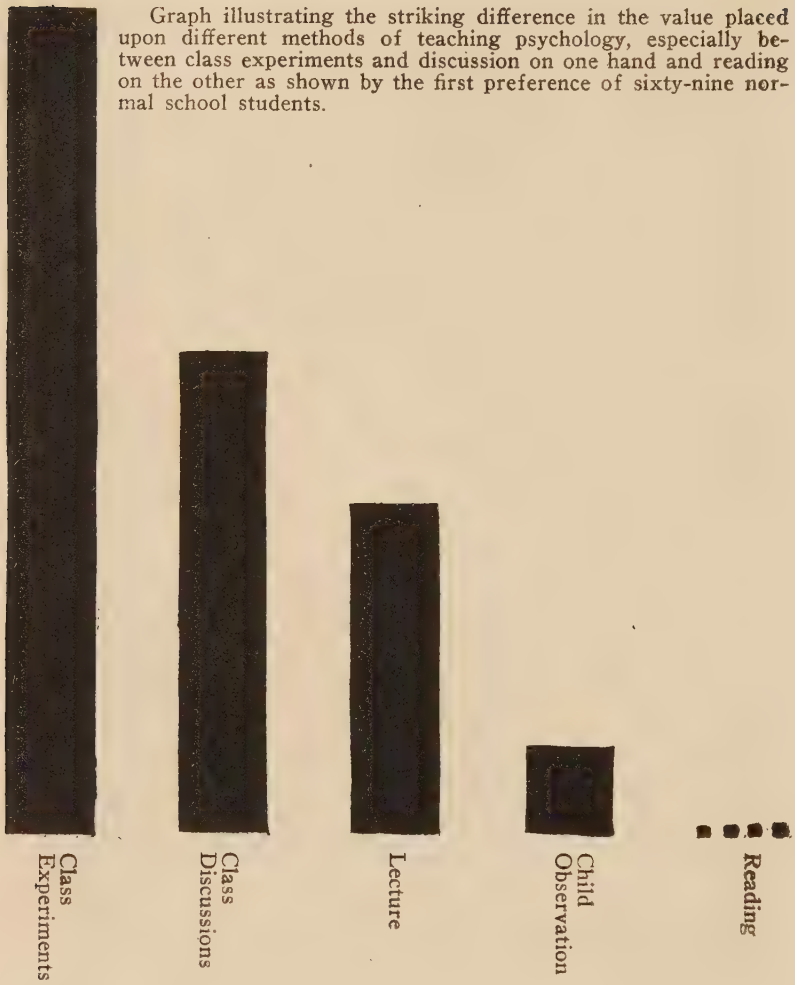
The particular methods mentioned above have been used with something like the same organization for several years. For some time he has wondered about the relative value of these methods. Finally he decided to get the opinions of the members of the class themselves. In a written paper each pupil was asked to arrange the five methods in the order in which they appeared to them to be most valuable in getting a grasp of the principles of educational psychology. The following table and the graph show the results of these judgments. In the table the numbers under the numerals 1, 2, 3, 4 and 5 indicate the number of the pupils in the class who voted that a particular method was first, second, third, fourth or fifth.

	1	2	3	4	5
Class Experiments	38	23	8	7	3
Class Discussion	22	19	21	16	1
Lecture	15	19	17	27	1
Observation of an Individual Child	4	14	25	26	10
Reading	0	4	8	3	64

According to the pupils' judgments the methods are effective in this order: (1) class experiments; (2) class discussion; (3) lectures; (4) observation of an individual child; and (5) reading.[3] The difference in value between the lectures and the observation of an individual child is so slight that the precedence of one over the other can not be taken seriously. With another class or through some little emphasis on one method rather than another the conditions might be exactly reversed. The relative positions of class experiments and reading will doubtless make the most striking impression. Although the course was being conducted on the principle that the pupils of themselves were not capable of doing much reading and preparation for the reading was invariably made through the lectures, experiments, and class discussions, the ineffectiveness of the reading is astounding. If such preparation had not been made one wonders whether all the pupils in the class would not have been unanimous in putting reading in the fifth place. The class discussion easily wins the second place. This is perhaps not so surprising. The overwhelming verdict of the class in putting the experiments first and the reading last suggests a very important principle of teaching psychology.

Before generalizing further it should be noted that the pupils in their paper were not only asked to state their preferences of method in the order of their importance but also to give reasons why they made their preferences.

[3] Since the writing of this paper the same inquiry was made of the class which finished its work in psychology in June, 1919. The results confirm the general conclusions already reached.



Graph illustrating the striking difference in the value placed upon different methods of teaching psychology, especially between class experiments and discussion on one hand and reading on the other as shown by the first preference of sixty-nine normal school students.

The following are two of the best papers presented:

1. Class discussions, because the ideas and opinions of a group are always helpful since they are so different.

2. Experiments, because they definitely fix in mind the points which have been made in class discussions and lectures. They are concrete.

3. Lectures, because they give straight-forward facts in proper relationship to each other with no interruptions; yet they are not so helpful as class discussions because there is

not time to discuss each question as it arises and the class is too large to allow the expression of the opinion of each individual.

4. Observation of an individual child. This has been of less helpfulness to me because it has been difficult for me to get in contact with a given child often enough and long enough to see the principles of psychology in practice.

5. Reading from text-books. This has been least helpful of all because it is so indefinite and abstract. It is much more difficult for me to grasp things from books than from actual experience (experiments) or discussion.

1. Experiments have been most helpful to me not only because they held my interest and attention but because I could see and understand for myself how the theories and laws of psychology were formulated through experiments.

2. Direct observation of a child gave me a keener and more active interest in all children and aided me in comprehending how they learn.

3. Class discussions have brought various questions to my mind from different angles, and through these points were made clearer and fundamental principles were more vividly brought out.

4. The lectures were next in helpfulness; they illustrated by many examples the most important principles.

5. Although the text-books were helpful still I think they were last on the list, for without the other kinds of work, I fear the mere reading and trying to digest what somebody else says would not prove beneficial.

To summarize, I might say that the concrete experiences proved most valuable.

A canvass of the pupils' papers reveals some of the reasons for their judgments. While the writer would have put the experiments first, he did not expect this opinion to be shared in by the class extensively because much laborious and careful work was required by the class in writing up the experiments. Only a few of the pupils complain of this however. Here are a few of the typical comments on class experiments:

(1) "Seeing is believing. The experiments have been helpful because we saw the thing done right before our eyes as we did it ourselves; in that way a deeper impression was made."

"They held my interest and attention. I could see and understand for myself how the theories and laws of psychology had been formulated."

"I was able to see things for myself."

"Experiments seemed to clinch the ideas which the lectures and the reading brought out and were a firmer proof."

" Experiments did not help me so much as they should have. It was a very unpleasant task to write up the experiments, and as a rule, we do not remember unpleasant things."

" I could see the exact results and processes worked out before me. When I came to read of a certain topic in the book, I was able to think back to the actual experience I had had with the same subject. As a whole the experiments seemed to clear up all doubts that remained from the reading in the books."

" Experiments clinched facts in my mind and made psychology a living thing."

" Whenever I hear or think about any psychological principle, I always think back to an experiment which illustrated this principle. The laws demonstrated by experiments I remember.

" These have helped me to clear up things which all the reading from textbooks could not do. But for experiments I probably could never have gotten a clear idea of what perception, trial and error, mental images and fluctuation of attention really were."

" I never really understood what part attention played in the process of learning, although I had read about it in the textbooks, until I performed the experiments myself. The experiments convinced me of the truth of statements which reading from a textbook often fails to do."

" Experiments helped me most because then I was able to come in contact with the actual things and draw my own conclusions. I did not have to take the theories of former psychologists, but I made those theories first hand."

(2) " The class discussions," as one pupil wrote, " unified all the work." It was a place where loose ends were tied together. Vagueness in all other phases of the study were cleared up, breadth of view was given through many personal experiences and direct applications. About 27 per cent of the pupils regarded these discussions of first importance and only one pupil out of the class of 79 put it last. Selected comments follow:

"Class discussions were especially interesting to me because I could hear what other people thought of the various problems proposed."

"They gave a chance for many interesting points of view."

" They cleared up points that had not been clear before."

" I was able to get original ideas from my classmates and to express my own ideas."

" Difficulties were brought before the teacher and straightened out."

"To me class discussion is a most helpful thing. After an experiment, a lecture, a textbook reading there is often a jumble of ideas in my head, and it is only by listening to the ideas of others and expressing my own difficulties that I can form a conclusion."

"Often the class discussion is as interesting as the rest of the work because the experience told by the other students makes us realize that psychology is a practical thing."

"The class discussion often straightened out what had puzzled me in my reading. In the discussions concrete illustrations which made the theory clear and concrete were often referred to."

"The class discussion brought up all phases of the work and the real practical values relating to each principle. I came to realize in this way how vastly important each principle was and what a large part it played in my own life."

(3) Although the lectures had comparatively little to do in the way of providing first-hand experience, it is rather surprising to find so large a proportion of the class, about 20 per cent, making it of first importance. A certain type of student evidently finds this method highly desirable. Its superiority over the reading is surprising as so much has been said against it. Only one pupil put it last. Differences of opinion seem pretty well distributed for all classes of judgments except the last. Here are some of the comments:

"The lectures were helpful because they dealt with child-life and enabled me to get points which I could carry over to the observation of children."

"They gave general ideas on which to build the important psychological principles."

"The lectures were convincing, easy to follow and understand."

"The lectures gave principles and explained them by illustrations."

"They gave me fundamental points in a more concise way than the book."

"I enjoyed the lectures because I understood them better than if I had read."

"Certain important points were made emphatic."

"Lectures acted as suggestions in that they made me read about different psychologists."

"The talks given were very clear, concise and definite. Illustrations of principles were always given. I think these talks were more helpful than the class discussions because there was so much more material brought forth in a short

period; no opposing or competing ideas were presented by the students so as to confuse one."

"I was so busy writing during the lecture that I think I missed some of the principles for which the lectures were given. The lectures were much more interesting and easier to understand than the text-books."

"The lectures helped me more than anything else. When a principle was stated, a definite and clear example was always given that seemed to be just the one necessary to make clear the meaning of the particular principle. I can always understand anything better if it is explained by word of mouth rather than by reading."

(4) The observation of an individual child, representing a good deal of concrete first-hand experience, which is referred to so many times with appreciation by the pupils, ought apparently to rank higher, perhaps above the lecture. Whether it merits this distinction or not there are several reasons why it probably did not rank higher: (1) there can be no direct supervision of the students as in the case of experiments performed in class; (2) there is no satisfactory way of checking up the time spent in observation—it must necessarily be somewhat incidental; (3) a certain proportion of the pupils has no good opportunity for observation. Sometimes there is no child near at hand and every observation necessitates the spending of time for that purpose alone. Pupils who have children in their own home or in the same flat can observe much and quite continuously without any special expenditure of time and effort; (4) the school year covered by this investigation (1917-1918) was broken up at about the middle of the year by an unexpected vacation due to the shortage of fuel. This vacation was further broken up and prolonged by an illness of the author for three weeks. Consequently this was probably the most unfavorable year for the observation of children since the scheme was inaugurated. So many lines of investigation were not suggested so that the observation was confined largely to the observation of a single child. The work could not be checked up with so much care. The interruptions naturally tended also to abate the enthusiasm with which the work began. Notwithstanding these obstacles the judgments as to the worth of the direct study of children were surprisingly high. Although close to 13 per cent put it last, nearly all explain it as being due to a lack of opportunity to observe. In the vast majority of cases it ranked above the reading. Five per cent of the pupils put it first and 17 per cent put it second. The following comments show just how these observations were helpful:

"I have learned much about dealing with children."

"My observations made many things I had read about children seem especially clear to me, since these facts were demonstrated right before my eyes."

"I was able to see real children and understand their doings better than if I had spent the time in reading books."

"The observations gave me a keener interest in all children and helped me to comprehend how they learned."

"The observation of an individual child seemed to me to be a general review of all the laws, principles, and characteristics of child life. In my study I found examples of individual differences, imitation, association, memory, coöperation, etc."

"My observations of a child were helpful in my psychology as I was able to base the facts I learned in class on something concrete."

"This like the experiments seemed to be a very convincing proof of the points brought out in lectures, reading and class discussions."

"The observation of an individual child was a sort of an experiment. It helped me to discover for myself the things that a child enjoys, what games he likes to play, how he learns, and the effect the environment has on a child's life. These things would not have been nearly as interesting or instructive if I had been obliged to refer to a textbook for information about children."

"I feel I know more about children and more about their likes and dislikes through my observation."

"It is much easier to learn about children by observing them than to read all the books that were ever written about them."

"I think the observations led me to observe children more. I have taken a greater interest in them since I began to observe one child."

"When I observed the individual child I learned a great many new things. The difference between children and adults became clearer, and I had a great desire to know more about psychology."

(5) The comments on the reading throw a flood of light on the attitude of the beginning student of psychology toward textbooks. While all pupils seemed to feel that the textbook had some value, this value was grudgingly admitted. The textbook to practically all was the *bête noir* of the course, as most of these quotations show:

"Reading was the least helpful to me because I was unable to grasp the ideas."

"The reading was hard to grasp at times, had to be done in a sort of rote way."

"Reading was helpful because it gave me very clear definitions and examples from which I could construct definitions and original examples in my own words."

"Reading I have put down as least valuable, yet I would never recommend leaving it out. I think the other lines of work furnish more thorough first-hand information."

"Books were least helpful to me. I believe this is due to the fact that they had to do with the abstract too often. They seemed to be very distant from my experience."

"Reading from textbooks was a long dry process. It did not seem to help me as much as other methods of work. Of course, I gained certain facts and laws, but they would have been hazy and uninteresting if the experiments had not accompanied them."

"Reading takes last place because what I have read in the books does not stay with me."

"I found the textbooks very difficult to understand."

"I think reading is the least helpful part of the course. It is necessary perhaps that we should read from textbooks, but unless the reading is assisted by experiments, observation, lectures, and discussions, it is of practically no value."

"It was helpful, but only as it confirmed what I had learned from other sources mentioned."

"The reading from textbooks was, I am afraid, of little help to me. I would read a chapter over and over and not get much out of it."

"The reading from the textbooks was helpful only when what we read was made clearer by class discussions and experiments."

"The textbooks did not help me much because when I got through reading a chapter I did not know much more about the subject than I did when I began."

"Reading from textbooks gave me the least help because the reading material was dry."

"I have placed the textbook reading last, not because I would eliminate it, for it is a fine thing since it helps to do individual study, but this method should not be used entirely. It is not interesting enough. It is sometimes hazy, then it is tiresome and when tiresome interest wanes and no desire to continue is afforded."

"The reading did not arouse any enthusiasm. It often left wrong impressions or at least hazy ones."

"The reading did not make me wish to actively pursue my

work further, whereas both child observation and experiments did."

The reader in glancing over the facts presented in the table, graph, and comments of these seventy-nine pupils may say that these judgments were made by immature pupils and hence are not to be relied upon. Doubtless there is some truth in this, but they are worth something as reflecting the opinions of a group of earnest young women who have completed one-third of their regular course. It represents their attitude anyway, and that is important. Then, too, their opinion is significant because it is so overwhelmingly in favor of one kind of method as opposed to another. If this opinion also coincides with well known psychological principles of learning we may find it sound and suggestive.

The most conspicuous feature of this study is the attitude of the beginning student toward the textbook. Eighty-one per cent of the pupils put it last in importance. They complain that the reading is "abstract," "distant from my experience," "hard to understand," "had to be learned by rote," "difficult to remember," "of no particular value unless assisted by lectures, discussions and experiments," "hazy," "vague," "often left wrong impressions," "unconvincing," "aroused no enthusiasm" and "left no desire to pursue the study of psychology further." In striking contrast to this testimony of the inefficiency of the reading, pupils with few exceptions testify to the effectiveness of the class experiments as "making a deep impression because it was done right before my eyes," "clinched facts and made psychology a living thing," "cleared up all doubts that remained from the reading of the textbook" and "gave a clear idea of the mental processes involved in learning." It might be thought that the lack of interest in and appreciation of the reading is an indication of laziness on the part of the pupils. This may be true to some extent, but it is significant that a half dozen of the brightest and most earnest students in the class were unanimous in putting the reading last. It was evident to the writer as he read all the comments of the pupils that the textbook was the grim specter that would not down. Again and again pupils refer to the experiments and the other methods as being much more effective than the reading. This is demoralizing because it is so vague and abstract. Pupils never seem to be certain whether they have mastered their reading lesson or not, and when they are asked to make concrete application of the principles developed in the reading they feel a general helplessness. Even when they have mastered certain facts to the extent that they can repeat them verbatim or even put them into their own words they have

little belief in their truth. They complain that they cannot see those facts or principles in relation to children or school practice. This study shows, and probably few teachers would doubt it, that reading which is not thoroughly discussed in class is not only useless, but it is worse than that for it usually leaves wrong impressions and a dearth of interest.

There are at least two distinct principles which seem to underlie interest and efficiency in teaching educational psychology to beginners. They are very old but frequently disregarded by teachers of all subjects. A method is likely to be successful and attractive to the extent that pupils are led to make actual and worthy responses to situations created by the method. It is a platitude in psychology that mere impressions are not educative. It is the response to stimuli that educates, and, as is well known, there is a powerful and instinctive interest in activity, both mental and physical. If pupils in the presence of situations presented by the teacher do not do anything, do not become self-active to some extent, then the result is worthless. This gives us a key to the pupils' judgments. Most of the reading, because of its abstractness and aloofness from the pupils' life, leads to the making of many impressions, but outside of a kind of mechanical memorizing process the responses are usually confused and feeble. Apparently pupils are seldom led to think. The vagueness of the text makes it almost impossible. There is little possibility of connecting it with life or education. The pupil finds it difficult to do anything but "learn the words." The class discussion, if properly directed through the presentation of vital problems accompanied by free, informal and spirited discussion, involves actual responses on the part of the pupils. They may frame questions that spring from their interests and difficulties, they bring up illustrations from their personal experiences that may be associated with deep emotional tendencies, they seek to express their opinions in their own words, and vagueness gives way to clearness. At the close of a period of spirited class discussion the pupils have made many responses that are educative. They have pooled their experiences, and through a process of sorting and sifting they have found certain principles. They have really put themselves into the work and have made it a part of themselves. In the class experiments, like the class discussions, problems are raised, but the responses elicited are more definite and even more intelligible. Every pupil in the class responded to a situation under controlled conditions and he then critically examines his own response and those of the other members of the class. All are active and all reach conclusions that are

definite, vivid, and convincing. The observation of an individual child again leads the pupil to do something definite; he observes, classifies, makes graphs, experiments and draws certain conclusions which are recorded in writing. This arouses interest and clear ideas. Nothing is really more interesting than human life, and the study of children in any kind of sympathetic way is not only a revelation of child life but of the pupil's own life as well. The lecture is apt to sink to the same plane as the reading, but it has these advantages. It may be adjusted to the mental background of the pupil in relation to concrete experiences of observation and experiment to a much greater extent than the book. If properly planned it may stimulate pupils to make certain observations of children which will eventually be recorded in their notebooks. Then, too, the lecture is delivered by a human being who naturally has some degree of enthusiasm which may be stimulating to pupils, leading them to think and feel differently than they ever did before. Most books are far inferior to spoken words.

As the writer examines the pupils' papers he finds that *interest and value seem to be connected with those methods which stimulate and allow self-activity and the enlistment of the pupil's own self.*

A method is also likely to be effective if it is based on and attached to concrete experiences. *Most pupils do not seem to think of reading as being an actual experience.* It is a kind of ghost or dream experience lacking in flesh and blood, a fanciful experience in which the spirits speak a foreign and monotonous tongue. Not only is this dream world unattached to living reality but it is so dull and insipid to most pupils that they have little ambition to make such attachments. It is inevitable that in learning a new subject like psychology a new vocabulary should be acquired. But the learning of such a vocabulary should grow out of past concrete experiences and should be capable of being applied to concrete situations under the guidance of principles. To do otherwise, to learn "words, words, words," is to run counter to one of the most vital and inspiring movements in the history education, a movement led by Rousseau, Pestalozzi, Basedow, Colonel Parker, and Dewey. Every student of psychology in meeting the words on the printed page should be able to translate them into concrete experiences. Apparently few students are able to do this. It is here that the experiments play a distinctive part. The pupil sees a psychological principle worked right out before him. He himself takes part in the process and deduces his conclusion from facts, so that the principle becomes

clearly defined. The observation of children serves the same purpose. The pupils' experiences are again concrete and they offer opportunities which could not be made clear by experiment. In the laboratory the teacher cannot arouse anger, fear, the collecting impulse, the growth of language, and then submit it to careful analysis. But in observing children all these manifestations may be studied in their setting at first hand. Without concrete and "real experiences" the work in psychology is likely to be a mere medley of words. This at least seems to be the testimony of these students.

Does this mean that textbooks in psychology should be entirely discarded and that pupils should depend entirely on first-hand experiences from which to evolve psychological principles: Certainly not. No individual in the study of any modern science can be expected to put everything to an experimental test. We can not all sail around the earth to know that it is round. That would be absurd. But it is equally ridiculous to expect pupils to become vitally interested in psychology or get a grasp of psychological principles by a mastery of words which have not been translated from concrete experiences. In the case of the beginning student who approaches a literature which bristles with new terms and technical difficulties, first-hand experiences should play the most important part. The introductory course in educational psychology should be a simple and natural introduction to the reading so that the pupils in advanced courses in psychological and pedagogical literature may unlock their treasures. Without such a fund of crystallized experience advanced reading is not likely to be profitable. It repels rather than attracts. Every student ultimately should, of course, be able to think in abstract terms without always consciously turning them into the concrete.

This investigation confirms the writer's belief in the relative worth of the different methods employed, but it was confirmed with an emphasis which exceeded his expectations. The contrast between experiments and reading looms larger than he anticipated. It suggests that he might use even more caution than formerly in preparing for the reading. One of the most severe arraignments of the reading is its tendency to deaden all interest in psychology and to inspire a fear for anything labelled with that name. It is evident that great care must be used in preparing the pupil so that he may take up the reading with interest and success. To assign reading without such preparation involving clear directions as to what is to be looked for, or to assign it without checking it up afterward in class discussion, would seem to be a dangerous method of procedure. The assignment of reading is evidently some-

thing which requires very careful study on the part of a teacher of psychology. This study also shows the value of direct observation of children, but it also indicates that this method, if pursued more vigorously, ought to yield greater results so that it might eventually rank above the lecture. The opportunities are vast. The class experiments have abundantly justified the time spent on them; so much so that the writer doubts whether any course in educational psychology, no matter how brief should be offered which does not have a backbone of experimental study. Any of the methods suggested seem to be worth while if utilized in the right way.

This study seems valuable not only in relation to the teaching of psychology but also in the teaching of other subjects. Is it not true that we learn best those things that involve vivid personal experiences? In the teaching of history, civics, hygiene, geography, general science, and other school subjects would it not be more profitable to put the children in situations where they will get real experiences with processes themselves rather than with mere printed words? The whole trend of this movement in the study of psychology or any other subject might be interpreted in the spirit of the student who wrote these lines:

"I do not underestimate the value of the lectures or the textbook, but I believe that when I have forgotten many of the things I have read or heard in the lecture hall, I will still be able to recall those things in which I took a personal part."

PARALLEL LEARNING CURVES OF AN INFANT IN VOCABULARY AND IN VOLUNTARY CONTROL OF THE BLADDER.

By Clark L. Hull and Bertha Iutzi Hull

The present report is concerned chiefly with the progress of a young child in securing voluntary control of the bladder and in the acquisition of spoken vocabulary. There is already a considerable body of literature on vocabularies of early childhood but despite the peculiar insistence of the problems involved, the present writers have not been able to find any systematic studies of the learning processes concerned with urinary control. It is entirely possible that if this obscure chapter of child psychology were better understood the number of cases of enuresis and quasi enuresis might be considerably reduced. The only observations that we have been able to find are more or less casual remarks made by medical writers in the course of works on the care of children. These are concerned chiefly with the age at which control should be established and with methods of training. Reference will be made to some of them below.

The subject whose behavior is made the basis of the present study is a female child born of a primipara in the month of August after a normal and uneventful period of gestation. At birth her weight was six and three-fourths pounds. Grasping reflexes were vigorous though probably not strong enough to support her entire weight. Similar reflexes were observed in the feet. Despite great care in the matter of diet, appetite was rather indifferent during the second year and weight throughout was slightly less than Holt's norms for girls. Teething began early (sixth month) and proceeded rapidly with little suffering. None of the contagious diseases of childhood were encountered during the period here reported though she occasionally had colds. She was very active and especially persevering in infantile projects. She crept at ten months and walked in the middle of the thirteenth month. Her first real words were spoken at seventeen months. She had a vocabulary of 129 words at two years and one of 500 words at 28 months. At the latter date she had a reading vocabu-

lary of 20 words.[1] At three years she had a reading vocabulary of 70 words.

At the age of 28 months she was also given the Binet-Simon tests (Stanford revision) by the first author under excellent experimental conditions. She pointed to the five parts of the body correctly and the five objects. She named girl, cat, apron and basket from the "Dutch Home" scene; man and girl from the river scene; man, house, tree and basket from the post office picture. She gave sex correctly, first and last name and repeated, "I have a little dog," but failed on the other two sets of words. All three of the groups of three digits in the alternative test for three years were also repeated correctly. She repeated one of the series of four digits in the four year tests but failed on all the other tests for that year. This yields a mental age of three years and two months or an intelligence quotient of 135. If the tests had been given with equal care by a stranger as was the case in the standardization of the Stanford Revision, the score might have been a little less.

The mother before marriage was a trained nurse with some university work especially in psychology. The father holds a Ph.D. degree and is an instructor in psychology at the University of Wisconsin.

There seems to be little difference of opinion among medical writers as to the best method of teaching children to control the bowel and bladder. Dennet for example says (*3*, 72) that the child should be placed on the chamber every hour of the day beginning with the eighth month. Others would begin the practice somewhat earlier (*5*). It was begun with the present subject at about the eighth month, though records were

[1] We had been teaching her a few minutes per day for about six weeks at the time. The method was to cut from a primer the names of objects in which she was interested and paste each on a 2 x 5 inch blank card. On the opposite side of the card would be pasted the picture of the object, often in bright colors. After the word had been read the card would be turned over at once to see if it had been read correctly, thereby strengthening the association. This technique proved extremely attractive, evidently appealing to her play instincts for she would gather up her cards several times a day and come to us saying "Reada carts!" Apparently a child may learn to read much earlier than is ordinarily supposed. (*13*)

It was noticed that she seemed to recognize the words almost as readily wrong-side up as right. Accordingly when she had eleven words learned, we presented each word to her seven times wrong and seven times right side up, and measured with a fifth-second stop watch the time elapsing from the ocular fixation of the word to the spoken reaction. The same word never came twice in succession. The two ways were alternated irregularly to equalize the effect of practice. The seventy-seven reactions each of the inverted and correct positions averaged respectively 1.97 and 1.52 seconds. The inversion thus caused an increase of only 30% in reading time.

not taken until early in the ninth (calendar) month. An examination of these records shows that we fell short of Dennet's strenuous program in the frequency of the trials. An ordinary closet bowl was provided with a supplementary seat suitable for a young child. This was used instead of a chamber. During the early months of the experiment, micturition would often not take place for half an hour or even longer. If it took place within 20 minutes or thereabouts, a plus was recorded on a score sheet placed conveniently for the purpose. If not, the trial was usually given up as a failure and a minus recorded. From these data taken by months the per cent of the total trials which resulted in successes were computed and the results taken as a convenient index of the level of control attained.

TABLE I

Lunar Month of Life	Sign of Score	Scores					Percentage of Successes
		1st Week	2nd Week	3rd Week	4th Week	Total for Month	
11	+	15	25	34	26	100	54%
	—(A)	12	20	24	30	86	
12	+	33	14	11	21	79	56%
	—(A)	16	18	18	10	62	
13	+	20	21	13	11	65	61—%
	—(A)	13	10	10	9	42	
14	+	26	20	22	16	84	63—%
	—(A)	16	18	9	7	50	
15	+	18	35	43	48	144	80—%
	—(A)	4	10	10	13	37	
16	+	38	54	44	46	182	81+%
	—(A)	14	15	4	9	42	
17	+	51	48	56	56	211	85+%
	—(A)	10	12	6	7	35	
18	+	55	58	65	57	235	90+%
	—(A)	6	9	2	7	24	
19	+	55	65	55	41	216	89+%
	—(A)	5	3	10	8	26	
20	+	46	42	53	58	199	85%(A)
	—(A)	7	10	14	4	35	83%(B)
	—(B)	8	11	15	5	39	
21	+	48	60	59	62	229	89+%(A)
	—(A)	6	5	7	10	28	86+%(B
	—(B)	9	11	8	8	36	

TABLE I—*Continued*

Lunar Month of Life	Sign of Score	Scores 1st Week	2nd Week	3rd Week	4th Week	Total for Month	Percentage of Successes
22	+	45	54	57	60	216	84%(A) 87+%(B)
	—(A)	8	9	12	11	40	
	—(B)	9	5	10	9	33	
23	+	68	59	40	42	209	84—%(A) 90—%(B)
	—(A)	6	7	13	14	40	
	—(B)	2	5	7	8	24	
24	+	35	47	36	38	156	82—%(A) 85%—(B)
	—(A)	11	6	14	4	35	
	—(B)	13	6	4	5	28	
25	+	45	39	45	47	176	89—%(A) 84%(B)
	—(A)	7	5	6	4	22	
	—(B)	10	12	7	4	33	
26	+	46	41	38	42	167	87%
	—(B)	5	5	8	7	25	
27	+	37	38	54	53	182	88%
	—(B)	4	6	9	5	24	
28	+	52	43	47	44	186	91—%
	—(B)	5	6	6	2	19	
29	+						*
	—(B)						
30	+	55	57	59	60	231	98—%
	—(B)	3	1	1	0	5	
31	+	63	54	47	42	206	98+%
	—(B)	1	2	0	1	4	
32	+	48	47	45	49	189	99—%
	—(B)	1	0	1	0	2	

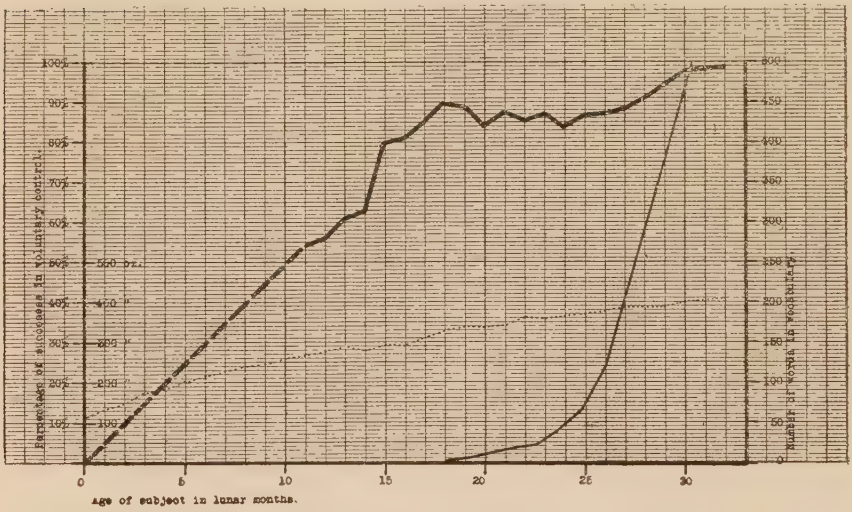
* No records were made during this month owing to sickness in the family.

As a child becomes somewhat older however, it is also possible to record with certainty the number of micturitions taking place when not at the toilet. The number of these "accidents" in a month added to the number of successful trials, gives the total number of micturitions in that period. The per cent of successes of this total clearly affords a second and possibly more satisfactory index of the level of control attained. Accordingly beginning with the eleventh four-week

period of the subject's life, the total number of successful and unsuccessful (—A) trials are given by weeks together with monthly totals and the percentage of trials resulting in successes (Table I.) Beginning with the twentieth period the number of "accidental" micturitions (—B) are also recorded and separate indices computed on this basis, as described above.

From a theoretical point of view these two indices might be expected to represent distinct processes: the first the power to relax the sphincters at will initiating micturition; the second the power to inhibit spontaneous tendency to such relaxation while in situations inappropriate for micturition. Whether

FIGURE I.



this reasoning is incorrect or whether the two processes are so highly correlated that each serves as a measure of the other, the fact is that despite a certain amount of variation between the two, the average of the indices by each of the two methods for the six lunar months during which both were used, are almost identical. Consequently the first method was discontinued after the twenty-fifth month. The average of the percentages by the two methods is taken as the final index of control for the six months during which both were taken. It should be added that the degree of vigilance of the mother

as well as the amount of time available for such work would influence to a certain extent such indices as those described. Disturbances from this source however, should be fairly well equalized in the two hundred or more entries for an average month. In this respect care was taken to secure as uniform conditions as possible throughout the experiment. The observations cover a period of twenty-two lunar months and include over forty-six hundred entries on the original charts. The progress in acquiring control from month to month is shown graphically by the upper or heavy curve of Figure I. The part of the curve extending over the first ten of the four-week periods is a straight broken line indicating that no records were taken during this time.

The general shape of the curve proves to be that of the familiar learning curves for skill and for the simpler mental processes (*7*, 575,) rising more rapidly at the beginning of the learning process and continuing progressively slower as the score approaches the limit of perfection. Its most striking characteristic is the pronounced plateau beginning at the eighteenth four-week period and continuing without perceptible improvement through nine lunar months. Such an extended plateau could not result from chance and accordingly calls for explanation. Having noticed a certain tendency to lack of control associated with severe colds, the idea was suggested that the plateau might have been caused by a mild but continuous deterioration of the health during that period. Accordingly the body weights were plotted parallel to the curve of control for the entire thirty-one months. It appears as a light dotted line in Figure 1. It was assumed that any such general disturbance of the health would be shown objectively by a corresponding plateau in the bodily growth. Inspection of the curve shows however that there is no suggestion of such a plateau. Indeed in this region as in other parts of the curve, it follows very uniformly the course determined by the authoritative norms of Holt (*5*), though somewhat lower.

A more plausible explanation is suggested by the fact that the difficult early stages of talking (light curve, Figure I) coincide exactly with the beginning of this plateau. That walking interferes with talking has been observed repeatedly (*15*, 134). It is possible that learning to talk has in this case interfered with the acquisition of voluntary control of the bladder. Unfortunately owing to the lack of exact studies on this subject it is impossible to say whether such a plateau is an exception or the rule in such learning.

Medical writers disagree somewhat as to the age at which control should be established. Holt (*5*, 693) says that "——

control is not acquired even during waking hours until sometime during the second year, and in some healthy infants not before the end of the second year." Dennett (*3*, 110) and Griffith (*4*, 463) agree in substance, though Griffith inclines to an earlier date. Ramsey (*10*, 160) says that "—— children do not usually gain control of the bladder function before they are two and a half years old but careful training and with occasional mishaps they may be taught control considerably earlier." Part of the apparent divergence of opinion may be due to difference in what is understood by "control." Obviously this is a matter of degree. There is control at 85 per cent, much more at 95 per cent and very much more at 100 per cent. Lack of knowledge in this matter is so great that the statement of degree of control in definite terms has not even been suggested. General observation seems to indicate that a strictly 100 per cent control is frequently not established until four or five years of age. There seems to be almost no exact information on this matter.

The curve of learning in acquisition of a spoken vocabulary (Figure I) has already been mentioned. All the new words used up to two years of age were carefully recorded by calendar months, and the vocabulary was again completely determined four months later. These vocabulary records thus cover nearly a year and permit us to get an excellent view of the learning process perhaps at its most interesting level. The form of this curve offers a sharp and striking contrast to the curve just considered. Instead of having its most rapid rate at the beginning and continuing progressively slower as is usual with the learning curves so far published, we find here the exact opposite taking place. It begins at an extremely slow rate and continues at progressively more *rapid* rates as far as investigated. Some of Terman's results (*12*) though obtained by a different method, indicate that by the seventh year the rate of increase has become stable and that it continues for eleven years almost without change, though ending at a slower rate. The type of curve thus presented seems so far to have been found only in analytical learning.[2] Ruger (14, II, 342) found it with puzzles and the writer (*6*) found it very uniformly in the evolution of concepts. It may be significant that the acquisition of the meaning of words is essentially a process

[2] Batson's curves of learning muscular habits which appear to begin with an initial period of slow learning (*2*, 28ff) turn out when plotted strictly to the standard principle of letting vertical distance represent amounts (not ratios) of performance in a given time, and horizontal distances equal amounts of time spent in practice, to be thoroughly conventional in their convexity (*10*). Thorndike (*14*, II, 122) has made a similar observation regarding one of Swift's curves.

of analytical learning, viz.: the evolution of concepts. And while the mental processes involved here and particularly the method of constructing the curve is by no means identical with the two studies just mentioned, there is sufficient identity to make the striking similarity of the shape of the curves suggestive.

The curve shows that no real words were spoken until the seventeenth month. At two years, there were 129 words. Beginning was thus somewhat later than the average and at two years the number of words was still somewhat below the 200 set by Nice (*9*) as the minimum.[3] The four months following however, show an average increase of nearly a hundred words per month, so that at the end of this time the score was about 10 per cent above the average of the six vocabularies for the twenty-eighth month assembled by Bateman (*1*). The moral of this seems to be that delay at the beginning of the language learning process is consistent with excellent progress later.

Previous to a careful examination of the records and the plotting of the curve, the writers were of the opinion that special environmental influences had played a great part in the process. During the slow period the subject played with other children almost not at all, whereas during the rapid period she played vigorously several hours every day with two older girls. But careful examination of the curve gives scant support for this view. During the twenty-fourth month while she was alone she gained 19 words while in the following month during which she had playmates she gained only 24 words. It will also be noted that the curve had already started on its rapid upward movement before she entered on her vigorous play relations.

The vocabulary at 28 months is given below arranged in alphabetical order according to the parts of speech. The list is made up according to the principles followed by Bateman. No proper nouns are included, no plurals except where singulars were not used, and no variants of verbs and adjectives except where of distinctly different form. All pronouns are given and words used as different parts of speech are given more than once according to grammatical use by the child. Words peculiar to the child or the family are given in quotation marks. With the exception of words which were forgotten, the words of the two-year vocabulary are shown in italics. No attempt is made to indicate pronunciation though in general it was good.

[3] In this connection it may be well to add that the subject showed at two years a slight tendency to be ambidextrous. At three years this had entirely disappeared.

VOCABULARY

A. Nouns — apple, apron, arm, aunt, *automobile.*
Verbs — am, are.
Adjectives — a, *all,* another.
Adverbs — again, ah ah (no), alright.

B. Nouns — *baby,* back, bacon, bag, ball, banana, band, basket, *bath,* bathroom, *beans,* bear, *bed,* beet, beggars, *bell, bird,* blocks, *boat,* bone, bonnet, "boo-cap," book, bookcase, *bottle,* bowels, box, *boy,* breakfast, breakfast food, *bread,* broom, *brush,* buggy, burr, butter, butterfly, *button.*
Verbs — bark, *bite,* broke, bring, brush, burn, *button,* buy.
Adjectives — bad, big, blue, bath.
Adverbs — back, better.
Interjections — boo! *by-bye.*

C. Nouns — cabbage, *cake,* candle, *candy, cane,* cap, car, cards, case, cat, catalogue, celery, *chair,* cheeks, cheese, chestnut, chicken, chin, chocolate, *clock, clothes, coat,* cocoa, collar, comb, cookie, corn, corset, cow, *cracker,* cream, crown, "cubberdeck," cup, cupboard, curtain.
Verbs — came, clean, close, comb, *come,* coughing, *cry.*
Adjectives — careful, clean, cute.
Adverb — certainly.

D. Nouns — *daddy,* daddykins, darling, *dear,* diningroom, dinner, dishes, *dog, doll, door,* doorbell, *dress, drink,* "dudad," dustpan.
Verbs — dancing, *do, don't.*
Adjective — *dirty.*
Adverb — *down.*

E. Nouns — eagle, ears, *egg,* everybody, eyes, eyeshade.
Verbs — *eat,* excuse.
Adverb — easy.

F. Nouns — *face,* fan, *finger,* fire, fish, *flag,* floor, *flower, foot,* fork, frog.
Verbs — fall, feel, find, *fix.*
Adjective — four.
Adverbs — fast, fine.
Preposition — for.

G. Nouns — garter, *girl,* glass, (eye) glasses, gloves, go-cart, gravy.
Verbs — get, *go, gone,* got.
Adjective — *good.*
Interjections — good bye, good morning, good night.

H. Nouns — hall, *hair,* haircut, *hand,* "hankie" (handkerchief), *hat,* head, hen, hill, *hole,* home, *honey,* horn, *horse.*
Verbs — have, hold hunting, hurry, hurt.
Adjectives — hard, hot, hungry.
Adverbs — *how,* here.
Pronoun — his.
Interjections — hark! *hello!* hip hip!

I. Nouns — ice, ice cream, iron, ironing board.
Verbs — *is,* I'll.
Pronouns — I, it.
Preposition — in.

J. Nouns — janitor, jelly.
Verb — *jump.*

K. Nouns — key, kids, "kiddyboo," kiss, kitchen, *kitty, knee,* knife.
Verb — know.

L. Nouns — laboratory, lady, lake, lamb, lather, leaf, *leg,* leggins, letter, "lick-dob" (liquid), *light,* lips, lover.

Verbs — let, like, look, lose, love.
Adjectives — large, lazy, little.

M. Nouns — *mamma,* man, *meat, milk,* minute, Mr., Mrs., mittens, money, mouse, mouth.
Verbs — make, move.
Adjectives — *more,* much.
Pronouns — mine, *my.*

N. Nouns — *name,* napkin, neck, needle, nightgown, nighty, nose, nothing.
Verb — needs.
Adjectives — new, *nice,* no, *none.*
Adverb — now.

O. Nouns — onion, overcoat.
Verb — *open.*
Adjectives — old, one.
Adverbs — o'clock, off.
Pronoun — our.
Preposition — of, *on, out,* over.
Interjection — *oh.*

P. Nouns — pad, pail, pancake, *pants, papa,* paper, parasol, peanuts, *peas,* pen, *pencil,* penny, pepper, piano, picture, *pig,* pillow, pillow-case, pin, plate, pocket, pocket-book, potato, porch, powder, preacher, professor, puffed wheat, pussy.
Verbs — *pick,* play, *please,* put.
Adjectives — poor, *pretty.*
Interjection — *peek.*

Q. Noun — queen.
Verb — *quit.*
Adverb — quick.

R. Nouns — rabbit, radiator, raisin, ribbon, robin, rooster, rope, rubbers, rug.
Verbs — *raining,* read, ride, rock, run.
Adjective — red.
Adverb — right.

S. Nouns — safety-pin, *salt,* sauce, sausage, *school,* scissors, shadow, shirt, *shoes,* skirt, sleeping-porch, sleeve, snow, *soap,* soldier, something, soup, *spoon, squirrel,* stairs, *stick, stocking, stomach,* stool, street car, *sugar,* suite (of clothes), supper, *sweater,* sweetheart, swim, syrup.
Verbs — said, say scratched, *see,* send, shaving, show, shut, *sing,* sit, sleep, spank, *standing,* sweeping.
Adjectives — sick, some, sore, *sweet.*
Adverb — so.

T. Nouns — table, table-cloth, tail, tea (towel), teddybear, *teeth, telephone,* thimble, thing, *thread, tie,* toast, thumb, toes, toilet, tongue, toothbrush, towel, town, tree, trousers, trunk, *tub,* "tummy."
Verbs — *take,* talking, thank, tickle, turn.
Adjectives — that, the three, tiny, two.
Adverbs — then, *there,* too.
Preposition — to.

U. Nouns — union (suit), underskirt.
Adverbs — *up,* up-stairs.

V. Adverb — very.

W. Nouns — waist, watch, *water,* wheat, whistle, window, word, work.

Verbs — wait, wake, walk, want, wash, watch out, waving.
Adjectives — white, welcome.
Pronouns — what, who.

Y. Noun — years.
Adverb — yes.
Pronoun — *you*.

An analysis of these two vocabularies reveals a surprising similarity as to grammatical constitution when it is considered that the second is about four times as large as the first. This analysis is given in some detail by Table II.

TABLE II

GIVING ANALYSIS OF TWO VOCABULARIES

Parts of speech	Twenty-fourth month Number of Words	Per cent	Twenty-eighth month Number of Words	Per cent
Common nouns	74	57.4%	289	57.8%
Proper nuons	9	7.0%	34	6.8%
Verbs	24	18.5%	85	17.0%
Adjectives	8	6.2%	41	8.2%
Adverbs	6	4.6%	24	4.8%
Pronouns	2	1.5%	8	1.6%
Prepositions	2	1.5%	9	1.8%
Interjections	4	3.1%	10	2.0%
Conjunctions	0	0.0	0	0.0
Total	129	100.0%	500	100.0%

The proportions of the various parts of speech found here differ but little from those given by Tracy (*15*, 148). The combined nouns in each vocabulary exceed slightly the 60 per cent given by him while the verbs are in each case slightly less. Conjunctions are entirely lacking in both vocabularies.

BIBLIOGRAPHY

1. BATEMAN, W. G. The Language Status of Three Children at the Same Age. *Ped Sem.* 1916, *23*, 211-241.
2. BATSON, WILLIAM HOWARD. Acquisition of Skill. *Psychol. Rev. Mon.* 1916, vol. *21*.
3. DENNETT, ROGER H. *The Healthy Baby.* New York, 1912.
4. GRIFFITH, J. P. CROZIER. *The Care of the Baby.* Philadelphia, 1916.
5. HOLT, L. EMMET. *Diseases of Infancy and Childhood.* New York, 1912.
6. HULL, CLARK L. Quantitative Aspects of the Evolution of Concepts. *Psychol. Rev. Mon.* 1919.
7. LADD, G. T. and WOODWORTH, R. S. *Elements of Physiological Psychology,* New York, 1911.
8. NICE, MARGARET MORSE. The Development of a Child's Vocabulary in Relation to Environment. *Ped. Sem.* 1915, *22*, 35-120.

9. ————, ————. Ambidexterity and Delayed Speech Development. *Ped. Sem.* 1918, 25, 141-162.
10. Ramsey, W. R. *Care and Feeding of Infants and Children.* Philadelphia, 1916.
11. Starch, Daniel. *Educational Psychology,* New York, 1919.
12. Terman, Lewis W. The Vocabulary Test as a Measure of Intelligence. *J. of Ed. Psych.* 1918, 9, 142-162.
13. ————, ————. An Experiment in Infant Education. *Journal of Applied Psychology,* 1918, 21, 219-228.
14. Thorndike, E. L. *Educational Psychology,* New York, 1913.
15. Tracy, Frederic, and Stimpfl, Joseph. *The Psychology of Childhood.* Boston, 1909.

THE MOTION PICTURE AS AN EDUCATIONAL ASSET.

By Phyllis Blanchard

Of late the motion picture, so long severely criticised as tending to encourage indolent mental habits and foster general immorality, has come into its own. When the United States entered the war it proved to be invaluable as a means of developing morale and bringing about the emotional unity of our heterogeneous nation. Now that the war is over, it bids fair to retain its place as an important method of social control, and its sphere of influence is steadily widening.

Many of the *post bellum* phases are simply an extension of wartime uses to include the General Public. For example such films as *How Life Begins* and *The End of The Road,* originated to supplement instruction in sex hygiene given by physicians at training camps, are now being presented in educational institutions and theatres. The first film, as its title indicates, is a series of pictures showing successive stages of cell division and embryonic development; following the approved method of the biological laboratory in the use of plant life and chick embryos, and reducing the whole subject to an impersonal and wholly scientific level. The second is a thorough exposition of the symptoms and far-reaching effects of gonorrhoeal or syphilitic infection, presented in connection with the stirring story of a Red Cross nurse and the great war. Its prophylactic value is obvious to anyone who has seen it, and it is especially to be commended in that it acts not only through fear but also through an appeal to the higher social motive of Eugenic responsibility. Many similar films are now being released, and will doubtless be quite as effective for the civilian community as the military cantonment.

Another wartime development of the motion picture which is being carried over into the reconstruction era are the industrial films which show each step of a process, from raw material to finished product. Many of these have been gotten out by various manufacturing corporations for advertising purposes, but this source does not take away any of the educational significance. The U. S. Department of Agriculture was not slow to realize the efficacy of such a scheme, and now has a catalogue of subjects of practical value to the farmer and

housewife, including such general divisions as animal and plant production, marketing efficiency, forestry, fruit and vegetable preserving, insect control, etc. Specific topics under each of these main headings may be illustrated by the following partial list: *Lumbering Yellow Pine in the Southwest; The Work of a Forest Ranger; What a Careless Hunter in the Woods Can Do; Coöperative Cow Testing in Vermont; Lambs from Range to Market; From Wool to Cloth; Construction of a Concrete Silo; Control of Hog Cholera; Preventing Spread of Gypsy and Brown-tail Moths; Control of Pink Bollworm of Cotton; Macadam Road Construction; Gravel Road Construction; Concrete Road Construction; Feeding the Hungry World; Drying Fruits and Vegetables in the Home.* Don Carlos Ellis, in charge of the motion picture branch of the Agricultural Department activities, says this work has been a vital factor in enabling the U. S. to feed the starving nations of Europe.[1] A nation-wide system of distribution for the films through the extension departments of state universities enabled scientific methods to be presentd to men and women who could not have been reached otherwise, and it is planned to continue the work into peace times.

So successful has the industrial type of film become in this country, that it is proposed to extend its services to Europe as one way of assisting in the rehabilitation of devastated regions. The first step toward the realization of this project has been taken by Mrs. Myra Kingman Miller[2] who has organized a Foreign Film Unit of women to visit France, Russia, Italy and other countries, showing free of charge how problems of sanitation, hygiene, home building, public playgrounds, community houses for working girls, etc., are solved in the U. S. In fact, all material which can contribute to the social betterment of women and children will be used, and a full set of pictures of the child classics, as *Red Riding Hood, Cinderella, Snow White, The Three Bears, Alice in Wonderland,* will carry a gleam of happiness to the saddened orphanages of France.

With the cloud of Bolshevik uprisings darkening the far horizon, we have come to give serious thought to the task of the Americanization of our immigrant population. Recognizing the motion picture as a language of all tongues, the Federal Bureau of Naturalization has decided to use this medium in its classes for aliens all over the country. Two series are to be

[1] *Motion Pictures in Agricultural Education.* Educational Film Magazine, Jan-Feb., 1919. V. 1: 1-2.

[2] *Motion Pictures to Revitalize Europe.* Educational Film Magazine, V. 1: 2, Feb., 1919.

presented, the first showing the development of the nation and its industries, the second how naturalized citizens have succeeded in different lines of industry. Teachers will of course be on hand to explain, but it is expected that the pictures themselves will be an effective argument for good citizenship.

With government endorsement of the motion picture as a legitimate aid to education, the teaching profession has at last awakened to a realization of its possibilities. At the N. E. A. convention in Chicago last February, superintendents agreed on a campaign for the installation of the cinema as a regular institution in public schools and colleges,[3] while the new centralized school building at Mingo, Ohio, having constructed its auditorium with a view to using motion pictures, has not only found its "shows" the educational and social center of the rural community, but a good financial proposition for the school as well.[4]

We have recognized the historical information conveyed by such films as *A Son of Democracy,* which features episodes in the life of Abraham Lincoln, and scenes from the war zones which offer authentic portrayals of battlefields and weapons of destruction. We have also noted the ease with which geographical instruction is absorbed through the medium of a *Burton Holmes* travel incident like *The Ainus of Japan,* or an *Outing-Chester* film such as *Cameraring Through Africa,* or a Bruce Scenic like *Tales of the Tall Timber.* As for classes in literature, how could the customs described in the classics be more clearly impressed upon the student's memory than by motion pictures of *The Last Days of Pompeii, The Doll's House, Silas Marner, The Taming of The Shrew, The Bride of Lammermoor, The Man Without a Country, The Bluebird, The Vicar of Wakefield, Treasure Island, MacBeth, The Cricket on The Hearth, Les Miserables,* or a score of other productions dramatizing for the screen the best writings of accepted authors? More recently there have been efforts to put the cinema still further to use in the teaching of science, both pure and applied. Prof. Van Doren of Earlham College, Indiana, has planned a screen course to illustrate his lectures in general and industrial chemistry,[5] including such topics as the following: *Crystallization of a Supersaturated Solution, Electrolytic Production of Hypochlorites and Chlorates, Manufacture of Sulphuric Acid, Blast Furnace, Construction of the*

[3] Dolph Eastman. *Motion Pictures at The N. E. A. Meeting.* Educational Film Magazine. V. I: 3, March, 1919.

[4] B. A. Aughinbaugh. *Mingo School Plan.* Reel and Slide. V. I: 3. May-June, 1919

[5] *Screen Course in Chemistry* Reel and Slide. V. I: 3, May-June, 1919.

Oxy-hydrogen Blow-pipe, Mining Kainite, etc. Prof. H. F. Moore, of the University of Illinois, has succeeded in obtaining microscopic films of the minute changes in wrought iron crystals when the metal is subjected to alternate stresses.[6] But it is in the field of the biological sciences that the most extensive production of films has been accomplished, and it is here that the cinema promises to be of most value, because textbooks and charts can not show the movements characteristic of living creatures.

To teachers who have vainly attempted to induce a class of beginners to see the wonders revealed by the microscope, films showing amoeba, paramecium, rhizopod, vorticella, stentor, rotifera, and other micro-organisms, will be a welcome addition to laboratory equipment, and such a series has been partially prepared by the Argus Laboratories.[7] The Ditmar Studios have filmed *Sea Anemones, Turtles of All Lands, The Orang, Tree Animals, Mammals of Strange Form,* and many other zoological subjects, while Pathé offers an equally good list, comprising at least a dozen reels on *Bird Life,* several on *Reptiles,* and others on *Crustaceans, Coelenterates, Worms and Echinoderms, Mollusks, Monkeys,* etc. Geology and Botany are less amply provided for at present, but no doubt such films as *Ice and Snow, A Plant With Nerves,* and *The Pitcher Plant* will be followed by others of a similar nature.

From even such a brief and inadequate survey, it is obvious that the motion picture is well on the road to become an accepted educational asset. There is little doubt that its advent will be hailed with enthusiasm alike by progressive teachers and long-suffering pupils, because it will afford better pedagogical results at the same time that it makes memory an unconscious function instead of a labored effort involving all the agony of concentration on an uninteresting piece of work. That this principle might be carried too far, to the detriment of the habit of concentration when the work becomes important and requires it, is possible, but a wise use of the cinema as a supplement of textbooks and lecture courses, cannot but prove a necessary adjunct to the equipment of the school of the future.

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[6] E. F. Cone. *Motion Pictures of Mental Stresses.* Educational Film Magazine. V. I: 2, Feb., 1919.

[7] H. D. Ashton. *Life Cycle of Micro-organisms.* Reel and Slide. V. I: 3, May-June, 1919.

SOME SUGGESTIVE PROBLEMS IN THE AMERICANIZATION OF MEXICANS

By Roy E. Dickerson, General Secretary, Y. M. C. A., Tucson, Ariz.

When mention is made of the problems confronting the nation by reason of the presence of foreigners within our gates, the average American is accustomed to think at once about the heterogeneous mass of immigrants who come to us from the nations of Europe and Asia, but without accurate knowledge of that part of our country which borders upon Mexico, he is scarcely likely to give even passing thought to the Mexican immigrants, much less to appreciate how large and difficult a part of our Americanization problem these people constitute.

This failure in popular thought to include the Mexican among the immigrants may be due to the fact that comparatively few people have occasion to observe this class of immigrants, since the overwhelming majority of Mexicans who come to this country distribute themselves in those states along The International Boundary, known generally as the Great South West. The United States census for 1910 shows that nine-tenths of the then Mexican population was concentrated in the states of Arizona, Texas, California, and New Mexico. This limited distribution in itself gives rise to many problems which would not exist were these people more widely scattered and, in turn, accounts for the lack of understanding on the part of the ordinary citizen of any special needs or difficulties among the Mexicans. While the 1910 census places the Mexican population within the United States at some two hundred and twenty-five thousand, and subsequent figures give the number of immigrants between 1911 and 1917 as one hundred and eighteen thousand, it is felt by those informed on the subject that these figures do not represent accurately the Mexican population, and that instead of the three or four hundred thousand indicated by these reports the number of Mexicans in the Southwest alone must be at least twice that much.

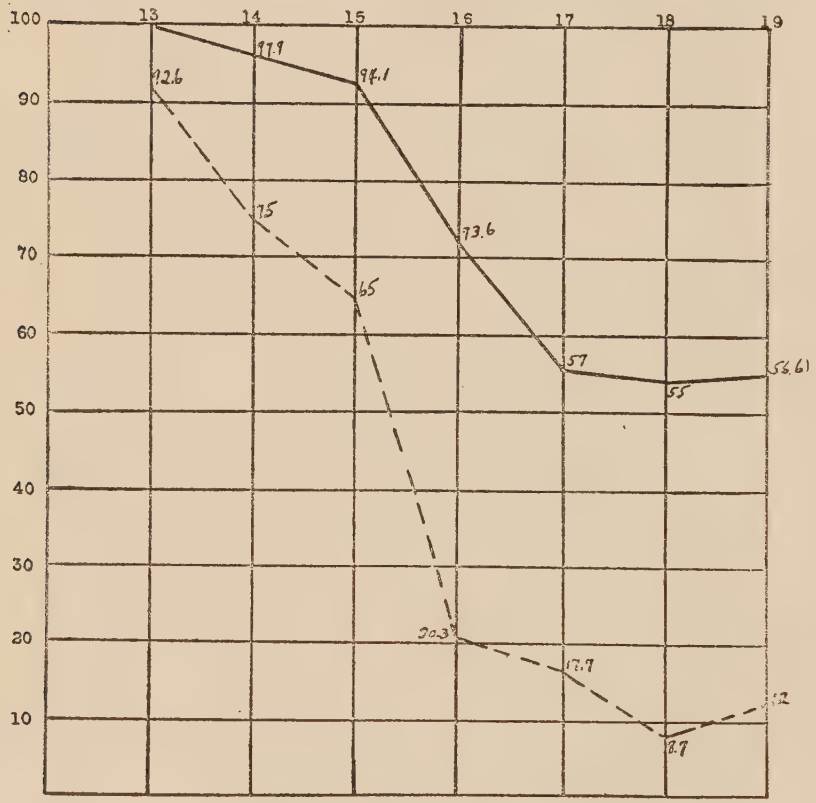
However inaccurate such estimates may be, it is certain that the Mexican population this side of and along the International Boundary is larger than the population on the other side. In El Paso alone it is conservatively estimated that not less than fifty per cent of its eighty-five thousand inhabitants

is Mexican. Such an estimate discloses a larger Mexican population in El Paso than in any city—American or Mexican—along the boundary excepting Monterey, Chihuahua itself, a purely Mexican city, having only a population of some thirty-five thousand. What is true of El Paso no doubt is also true of many other communities in the southwest of which the writer cannot speak authoritatively. His knowledge of conditions in one of the border cities is sufficient to enable him to venture some specific statements. These are derived from a survey of the 'teen-age boy-life of Tucson, Arizona, undertaken by the Young Men's Christian Association of that city, some details of which will be set forth in this paper.

Tucson is a city of some twenty-five thousand population, located about seventy-five miles north of the International Boundary, and on the main line of the Southern Pacific of Mexico Railroad. It is a modern, progressive and well-built city entirely American in spirit. Probably about fifty per cent of the population is Mexican. The presence of the proportionately large number of Mexican boys in the community indicated the need of a careful study of some of the sociological conditions among them before a program could be developed by the Association with any degree of confidence that it would be adapted to the needs of this class of boys. Accordingly the Young Men's Christian Association undertook to bring out by a survey the facts concerning the number of 'teen-age boys in the community, their nationality, the number in school and at work, the education of the working boy, and the nature of his work together with the amount of his earnings and something of his home conditions. The data for the survey were drawn chiefly from the school census made in the spring of 1918, supplemented by material from other sources and, in many instances, by special inquiry. Without going into details as to the technique of the survey, it will be sufficient to say that it is felt that the results accurately disclose the situation with respect to any of the matters inquired into. Before proceeding it must be noted that this article deals with the problems of only a portion of the Mexican population. Considerable numbers of this race are already well Americanized and are represented by many able, cultured and much respected men and women in all walks of life. What follows has no reference to them nor to any of the towns or cities in the country where long residence has brought about, as a whole, a domination of American habits and customs among the Mexican residents.

With regard to nationality, the survey disclosed the interesting fact that about sixty-two per cent of all the boys of

'teen age were of Mexican birth, and that at any one of the ages investigated the number of Mexican boys considerably exceeded the number of American boys of the same age. This ratio between the children of the two races is not uncharacteristic of other communities, no doubt due to the fact that the Mexican family, as compared with the American family, is much larger in size. In El Paso nearly seventy per cent of



PERCENTAGE OF BOYS IN SCHOOLS

the scholastic population of that city is said to be Mexican, and the school census of Tucson, as a whole, shows that about fifty-five per cent is of Mexican descent. It is interesting, in this connection, to note that in the year 1918 every sixth immigrant to the United States was a Mexican, and that nearly three thousand boys under sixteen years of age were admitted in that year, being the largest group of any one nationality.

One of the most significant conditions disclosed by the survey was the relationship of these boys to the educational institutions of the city, both public and private. Taking the group as a whole, it was found that there was practically no difference between the number of Mexican boys of 'teen age in school and those of American extraction, though only forty-five per cent of the total boy population was in school; but upon analyzing the school attendance by years, it was discovered that this apparent equality in attendance at school was because of the large number enrolled at the ages of thirteen and fourteen. On a percentage basis the condition is shown by the following chart on which the solid line represents American boys and the dotted line Mexican boys.

It will be observed that the percentage of Mexican boys in school steadily and rapidly declines from ninety-two and six-tenths per cent at age thirteen to sixty-five per cent at age fifteen, following which there is a sheer drop of nearly forty-five per cent to twenty and three-tenths per cent at age sixteen. In interpretation of this it should be said that the laws of Arizona require the attendance of children at school until they are sixteen years of age unless the child has completed the elementary school before that age, in which event he may leave at fourteen. As a rule the Mexican boy is much retarded and few, if any, complete the eighth grade before sixteen years of age. When the pressure of the law is removed at sixteen years of age the result is graphically indicated by the dotted line. Leaving aside for the present any consideration of other factors contributing to this situation, the fact that less than twenty per cent of the boys of the upper 'teen age were in school is a serious matter from any point of view. Americans as a whole seem only recently to be anything like awakened to the importance of education as an Americanizing influence on any foreign people. When, as in this case, foreigners come to this country and establish settlements which are virtually small sections of foreign communities, speaking their own language, retaining their own customs, reading their own papers and to all intents and purposes maintaining their national life even in the midst of American forces and influences, the chief agency for bringing about an assimilation of such people must be American educational institutions, and, when we find more than eighty per cent of the boys of any foreign nationality outside of the sphere of influence of our schools, the situation becomes a matter of grave concern.

Another aspect of the same problem is illustrated by the following chart showing the highest grade in school completed by one hundred and seventeen Mexican working boys and repre-

senting an accurate cross-section of the whole number of Mexican boys at work. The figures at the left indicate numbers, while those at the top represent grades.

HIGHEST GRADE IN SCHOOL COMPLETED BY 117 WORKING BOYS

This chart considers only numbers without distinctions of age. A supplementary chart, not shown here, analyzed the figures by ages. Taken together they disclosed that three of the group studied—two of them nineteen years old and one eighteen years old—had never gone to school at all. Sixteen boys had completed the third grade, part of them having received their education in Mexico. This group was distributed as follows: one, nineteen years old; six, eighteen years old—three of

whom had passed through the third grade in Mexico; three, seventeen years old; two, sixteen; three, fifteen and one, fourteen. As further illustrating this chart, consider the nineteen boys who had completed only the fifth grade. Of these one was nineteen years old and the balance were distributed as follows: six, age eighteen; two, age seventeen; three, age sixteen; two, age fifteen; four, age fourteen and one age thirteen. The median line on this chart will run somewhere between the fifth and sixth grade, thus corroborating the judgment of those familiar with conditions elsewhere, who estimate that Mexican boys generally quit school at the fifth grade.

Further information on this subject is given by the educational survey of Arizona made by the United States Bureau of Education in 1916-1917, and published as Bulletin 1917 #44. At page 120 of the Bulletin a table is given showing the number of children enrolled in each grade for every one hundred enrolled in the first grade in eleven of the principal cities of Arizona. A part of the data given is shown below:

	1st Grade	2nd Grade	3d Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade
Average of State	100	52	46	43	35	23	22	19
Average for Tucson	100	46	36	40	23	15	15	11
Average for 30 other cities	100	88	77	75	70	63	52	43

When studying this table the rapidly shifting population in Arizona together with the large numbers of Mexican boys dropping out of school must be considered since these two factors undoubtedly largely account for the low averages shown. Excessive retardation of Mexican children is also an important contributing cause. It is not uncommon to find boys of five or six years difference in age in the same grade, and the graded schools have many Mexican boys fifteen or sixteen years old in the same classes as American boys five or six years younger. The median variation disclosed by the government survey for twelve cities in Arizona ran from four years at the eighth grade to eight and one-half years at the first grade, it appearing entirely possible to find thirteen, fourteen, fifteen or sixteen-year-old Mexican children in the same grade as five- and six-year-old American children. Figures from the same source for this city show an average of twenty-seven per cent of children in the grades as three years or more

over age. The report itself says, "The over-age problem is greatest in the fifth grade and rapidly diminishes in the upper grades and high school. This is about the grade at which retarded children reach the compulsory age limit and drop out of school." No doubt this is one of the most potent reasons for such a decrease in attendance as shown by the first chart. As a whole the Mexican boy matures more rapidly than American boys and feels himself much out of sympathy with his younger classmates. Naturally enough the tendency is to leave, as soon as the law will permit, the school which thrusts him into such company. Before passing on to other features it should be noted that the figures given as the "average for 30 other cities" are derived from data collected outside of the State of Arizona and are given in the government bulletin to illustrate conditions in other places where immigrants do not enter into the situation. The figures for Tucson are lower than the average for the State partly because of the relatively larger number of Mexicans in that city as compared with other cities in the State.

Among other noteworthy factors are to be included economic pressure which makes it necessary for the boy to leave school and, in many instances, a real lack of stimulation from the home and other forces. Apparently neither the social heredity, the environment nor the influence of the home is sufficient to stimulate the boy to remain in school in anything like the same numbers as the American boy and, perhaps, herein lies the heart of the problem, the real task being that of creating or utilizing influences designed to evoke a greater response to educational opportunities. No doubt there are large numbers of Mexican boys who leave school for no sufficient cause and who might well continue their education if the home or other social agencies urged and encouraged them to do so, provided the school offers a curriculum adapted to their special needs.

Two other aspects from the sociological point of view remain to be mentioned. The surveys show an interesting and unexpected range of earning on the part of the working boy, running from thirty dollars a month at one extreme to one hundred and eighty dollars at the other. The overwhelming majority of boys working were earning between sixty dollars and one hundred and ten dollars per month while quite a few were making between one hundred and ten dollars and one hundred and eighty dollars a month. It probably is true that the range of wages for boys at the time this survey was made reflected the abnormally high scales maintained during the war and that a similar inquiry made at the present time would show a somewhat lower average, yet even if such prove to be the fact

the situation would be little if any the less interesting and full of social problems, especially when considered in connection with the just discussed educational background of these boys and the home conditions as disclosed by the investigation.

We have already mentioned the well-known tendency of the Mexican along with other foreign nationalities to establish settlements in this country in which the customs and habits of living prevalent in the home country are perpetuated. It is beyond the scope of this article to attempt discussion of the type of home maintained by the Mexican either in his native country or in the United States. It will be sufficient to say that as a rule immigrants congregate in small areas, densely settled, with more or less primitive habits of living and in an atmosphere almost wholly devoid of American influences. Illiteracy is widespread and a very large percentage are not able to speak or even to understand the English language. In addition to this general condition the survey disclosed that nineteen per cent of all the boys of 'teen age reported their fathers as being dead; six and one-half per cent made a similar report with respect to their mothers and three and four-tenths per cent were shown to be living away from home, making a total of twenty-eight and nine-tenths per cent of the boys at this most important age whose home life was, in a very vital respect, abnormal

Some conception of the problems presented will be gained when one considers the situation as a whole, taking as typical of many of the entire group, some of the results disclosed in the survey. Here we have a community comprising a large part of the city in which it is situated, maintaining very largely the habits and customs of life in Mexico, speaking their own language, reading their own papers and unable, to a large extent, to understand or to speak English. In this community are considerable numbers of boys whose education has not gone beyond that of the fifth grade, eighty per cent of whom are not in school, large numbers of them earning much more money than is wholesome for any boy of 'teen age to have at his disposal, and living in homes frequently lacking the presence of either father or mother. In this connection also should be considered something of the racial and social characteristics of these people. They represent a race which long has been held under the pressure of conquest and political despotism. The boy reflects this pressure in his diffidence, by an inclination to be more retiring than the American boy, and in a temperamental lack of the buoyancy and optimism of our own youth. We are told by those familiar with national life in Mexico, that the play-life of the boy is very meagre.

There is an abundance of individual games but a great deficiency of those requiring team work and, as a whole, the Mexican boy considers himself too old to play when he has reached the age of sixteen. Such a boy has no fraternities, no sports, no visions, of social service, no one of the many activities which gain the interest and attention of the American youth—in short, he suffers from a paucity of things to do. The revolutions of recent years have driven many Mexicans of the finest class into this country, and these refugees constitute almost a separate problem in themselves. They have suddenly come out from an environment and a national life very different from our own into conditions far from favorable, in many instances, and find themselves completely at sea. Illustrative of this may be mentioned the cases of two boys now in this country, one of them formerly a student of law in Mexico, now unable to pursue his studies and serving as a janitor; the other formerly a student of medicine, now reduced to the necessity of working as a messenger boy. As this is being written an Associated Press Dispatch tells of a former rich and distinguished Mexican, one-time member of the Mexican Cabinet and a wearer of the French Legion of Honor, who for two years past has been making his living in a border city driving a "jitney bus."

Over against these limitations should be considered some of the characteristics as we have had occasion to observe them among the boys in this city. There is an unusual eagerness and desire for self-development—almost any opportunity that promises helpfulness is eagerly seized upon. There is a great deal of respect for authority and achievement which makes Mexican boys as a whole better disciplined and more readily controlled than the American boy. In addition there is a tremendous pride and sensitiveness which, unless understood and reckoned with, alienates the sympathy of the boy, quite imperceptibly at times, but very effectively.

Such are some of the aspects of this large problem. The whirligig of revolution has accentuated many of its phases and, at the same time, has opened to this country a rare opportunity by bringing within our boundaries and within reach of our schools and other Americanizing forces many boys of the finest families in Mexico now numbered among the refugees here, but who are refugees only, being on fire with love and enthusiasm for their own country. To it the overwhelming majority of them will return and because of their former position and superior education they will become in time the dominating and controlling minds in that country. If we are to have better international understanding of a permanent

nature between ourselves and this near neighbor in the south, we must take care that these boys and young men carry back with them an accurate conception of our spirit and that they shall have made that spirit an integral part of their own. And if we are to cope successfully with the Americanization of the large numbers who still remain in this country, the best efforts of our best citizenship must be given to these problems in a much more vigorous and effective way than has hitherto been manifested.

THE HIGH PROFESSIONAL STANDARDS OF PRESENT DAY CITY SUPERINTENDENTS

By Charles E. McCorkle, Superintendent of City Schools, Ironton, Ohio

Most educators of the present day agree that education is a science. Not many years ago when Dr. Strayer made the statement and attempted to prove it, great discussions arose everywhere not only in education but in other fields. The idea of claiming education to be scientific was preposterous, especially with those people who were engaged in the so-called scientific fields.

The medical profession is an old and recognized profession. Many years ago medical men formed themselves into a highly professional group with a high professional code of morals which each man in the profession had to follow or be classed as an outlaw professionally. Very few doctors who practice medicine violate the now rather highly standardized code of ethics. This professionalism has become disseminated so widely that it is very poor business for any man to treat it lightly. Yet the practice of medicine is little if any older than the practice of teaching.

If any individual twenty-five years ago had said that as high a standard of professionalism existed in education as in medicine, he would have been called the biggest optimistic liar in existence. No doubt the individual would have been a perverter of truth, a dreamer of dreams, or else a prophet of the good days to come. Not many years ago, a goodly number of those who were engaged in the teaching profession could have been called outlaws, bandits, and other similar terms. Almost every person was after the job of any other person who had a better job than he had. Politics, friends, "pull," and even diabolical contrivances were concocted by some to eliminate others from the jobs which they cherished. This sort of procedure was common. But the spirit of professionalism has grown to such an extent within the last few years that unprofessionalism is as uncommon as it formerly was common.

During the last five years, the writer has noted greater advances of professionalism in the teaching profession than in any other profession. From the data that have been collected,

it is safe to say that no profession now has a higher, truer, more sincere, and self-sacrificing code of professional ethics than the teaching profession. However, the data to be discussed in this particular study have to do only with City Superintendents. Furthermore, at the time the data were collected, the writer firmly maintained that no such thing as a professional code of ethics existed among superintendents. It was held that if superintendents did have any professionalism, it only had to do with those things that do not pertain to holding jobs. If information was desired that would reflect upon their work, or give somebody else an opportunity to get the job which they held, it was thought that professionalism would vanish. Facts prove the opposite.

In 1914, while the writer was at Clark University, information was requested from 257 city superintendents regarding what America's attitude should be towards the World War and what place the War should have in the Public Schools of America. "Answers were received from one hundred and nine city superintendents, from the United States Commissioner of Education, and from twelve state commissioners of education. In these answers, thirty-nine different states are represented. The total population of all the cities from which replies were received is 18,138,965, in which the total number of teachers employed is approximately 60,000." (Published in *Pedagogical Seminary,* March, 1915, Vol. XXII, pp. 1-26.)

The writer, in commenting upon the 148 superintendents who did not reply and who were far from being as busy as they are now, stated: "There is no question that they feel they cannot run the risk of losing votes or becoming unpopular by speaking for or against this as their pedagogic training and ability demands. In a matter of such importance and far-reaching influence as this, surely the 'political game' must play an important rôle since it prevents a decided expression by a man in such an important position." (*Pedagogical Seminary,* same as above.)

In regard to the superintendents' replies to the above data, there was not a single unprofessional reply. However, from the above criticizing quotation, it is easy to see that the conception of the professionalism of City Superintendents was quite vague in the mind of the writer. And there is little doubt that he had a sufficient amount of experience to warrant him in making the statement. But his judgment, like the judgment of too many educators and supposed experts, was based upon personal experience and a limited observation, much of which might have been the exception rather than the rule.

During the spring of 1915, the writer became interested in the great possibilities of Current Events Teaching in the public schools. (See *Pedagogical Seminary,* 1915: "How to Teach Current Events.") In this extensive study, every superintendent replied in a purely professional manner.

While at Harvard University in 1916, the writer made an extensive and comprehensive "Study of Superintendents' Reports." (This study is almost completed and will soon be in press). The object of this study is to show "What a City Superintendent's Report should Contain and How to Write It." More than ninety per cent of the Superintendents replied, and not a single unprofessional reply was received.

In 1917, while superintendent of City Schools at Ironton, Ohio, the writer made another small study which had to do with the salary schedules of forty-five cities in Ohio. Over ninety-five per cent of the superintendents responded. Because the study had to do with salary schedules, some pessimists might intimate that, naturally, questions about salaries would bring replies. Some folks might add that courteous as well as professional replies would be received when the subject of salaries is discussed. Whatever the cause was, every reply was strictly professional.

Some few weeks ago while looking through the data of the above investigations, the writer decided that a true professional spirit really prompted the superintendents to make painstaking replies. But it was also decided that these data would prove beneficial to the giver when collected, and that selfish motives could have prompted the replies. Therefore some other form of a test should be given to a representative number of superintendents in order that sufficient data might be had for determining the professional standards. Everybody will agree that courtesy, ethics, and almost everything else will be tested when the livelihood, job, and money phase of life are being questioned. Will professionalism in Education stand this test?

The following letter was sent to a goodly number of city superintendents in large and small cities just prior to their reelection,—

"Dear Supt. (————————):—

"I am informed that you are going to retire from the Superintendency of your City Schools at the close of the present school-year. Through courtesy to you, and because of the high standards of our profession, I am writing to you for information. If the above information is correct, will you please send me the names of the members of your Board of Education by mail?

"Thanking you in advance for any information that you may give to me, and wishing you the best, I am

"Fraternally yours,"

The above letter was impertinent, but the replies that were received were, indeed, surprising. There was no indication in any of the replies that a study was being made, but every superintendent responded in the spirit of giving the proper information. Answers were received from more than ninety per cent of the superintendents, and practically all of the replies were made by return mail. Representative replies are as follows,—

"I am not expecting to resign my position as Superintendent of the ———— schools for the coming year. Of course, if the Board of Education should so decide, I may have to resign, but as matters are now I can see no reason for resigning.

"Thanking you for your professional courtesy in this matter, I am"

. . . . . .

"In reply to your letter received a few days ago, let me say that I was unanimously reelected ———— for a term of four years at an increase of $1000 per annum

"With kind regards, I am"

. . . . . .

"In reply to your letter ————, I desire to say that I have had no intention of leaving the ———— at the present time. The person who gave you the information must have had the wires crossed. With kind regards,"

. . . . . .

Between five and ten per cent of the superintendents had been displaced by a designing high school principal or an assistant superintendent. In some cases the change might have been made in a professional manner. However, not one single complaint was made by these big-hearted professional men. Representative letters of this nature are as follows,—

"———— our high school principal was elected last night at a salary of $4000. He had the inside from the first."

. . . . . .

"———— Mr. ———— was elected and I am hunting a position. Good luck to you."

. . . . . .

It is hoped that these newly made superintendents will soon catch the high professional code of honor that exists among our city superintendents. And the writer hopes just a little further, and that is, through the concerted action of city superintendents, not only unprofessional superintendents but unprofessional subordinates, i. e. assistant superintendents, principals, supervisors, and teachers be eliminated from the teaching profession just as rapidly as possible. It is perfectly all right for persons in subordinate positions to rise in the profession, but let that rising be in an honorable manner.

From the representative letters quoted above, it is evident that there were three groups of superintendents, those who expected to remain in their present position, those who had just been reelected, and those retiring from their present position through resignation or displacement. The replies that were received from each group were courteous and highly professional. Professionalism among city superintendents has a very bright future and a very high standard. This is indicated by the following letter,—

"Replying to your letter of the ———— would say that you were wrongly informed relative to my retirement ————. On Tuesday last I was unanimously reelected with a substantial increase in salary.

"I wish to thank you for the courteous manner in which you approach the situation. I am working on a committee to draft a code of professional ethics for our state, and it is a satisfaction to receive the wholesome impression that your letter of inquiry gave me. This is particularly true in the light of not a few illustrations of an opposite type that are falling into the hands of our committee.

"Wishing you continued success wherever your lot may be,—"

From all of the data that have been received during a period of over five years as designated in the previously mentioned studies, the facts show conclusively that there is a professionalism among City Superintendents that cannot be surpassed by any other profession. In fact, the writer challenges any profession to demonstrate by the claims of extensive data and facts a higher, a more sincere and self-sacrificing code of professional ethics than the present day City Superintendent maintains.

BOOK REVIEWS

SOME RECENT LITERATURE ON THE CHILD

The Child's Unconscious Mind. By Wilfrid Lay. N. Y., Dodd, Mead & Co., 1919. 329 p.

The Play Way. By H. Caldwell Cook. N. Y., Stokes, 1917. 367 p.

A Study of the Mental Life of the Child. By Dr. H. Von Hug-Hellmuth. Washington. Nervous and Mental Diseases Pub. Co., 1919. 154 p.

Das Proletarische Kind. By Dr. Robert Tschudi. Zurich. Art Institut Orell, Füssli, 1919. 36 p.

Dr. Lay's book is quite frankly an attempt to apply Freudian psychology to the problems of education. The first chapters are an excellent summary of the psycho-analytic principles of the unconscious and the mental mechanisms and psychic complexes which in large measure determine human conduct. The later chapters show how these psychological factors enter into the reactions of the school child and become powerful motives toward good or bad behavior, intellectual interests, relations with teachers and playmates, etc. It is pointed out that we need a new pedagogical type in our schools,—a group of teachers sufficiently well versed in the new psychology and with small enough classes to permit of analytic study of individual children, in order to discover and remedy the unconscious obstacles which obstruct the proper development of the intellectual life and social nature. The aim of education in the future will not be confined to training in the subjects of an approved curriculum; it will rather broaden its scope to include the adjustment of the child to reality and the development of a sane and healthy attitude toward the problems of life.

Although Dr. Lay's book contains little original material, it is by far the most inclusive and practical attempt to apply the psycho-analytic findings to pedagogical situations. As always, the author has succeeded in expressing technical points with a simplicity and clearness which makes his work preëminently fitted for the use of students previously unacquainted with the subject, hence its desirability for the use of the average school teacher. There is one criticism which seems only fair, however. Dr. Lay, while not overemphasizing the sexual factor in human conduct, takes little note of the egoistic tendencies pointed out by Adler, and entirely neglects the important contributions of the Zurich school, as represented by Jung and Maeder, to the understanding of personality. It may justly be suggested that the logical next step in a psycho-analytic scheme of pedagogy would be the application of the point of view developed by these latter investigators in the same manner as Dr. Lay has so adequately adapted the Freudian findings to the educational field.

If such authors as Hayward and Knowlson are correct in their insistence upon the crying need of society for originality, and in their condemnation of present educational methods as destructive of spon-

taneity, then H. Caldwell Cook's volume entitled *The Play Way* could not be more timely or of more far-reaching import. It is difficult to do it full justice in a brief review, for it is packed full from cover to cover with entertaining and instructive material. In general, it is an account of the author's work with the boys of his form, whose ages range from 11 to 13 years, but the methods described might be applied with equal success to classes of girls, or to mixed classes, in spite of Mr. Cook's modest avowal that he is incompetent to speak other than of boys.

Perhaps the two most original things which Mr. Cook has done are described in the chapters headed *Littleman Lectures,* and *Ilonds.* The former gives an account of an innovation in the conducting of oral composition classes, while the latter shows the constructive imagination of the child given free play. Finding his boys falling into stereotyped expressions in their extemporaneous speeches, Mr. Cook took them out into the playground, and began a series of stump orations for and against equal suffrage, home rule, and other absorbing topics. Soon the boys had taken the initiative, and were arranging lectures upon aeroplanes, fishing, submarines, and other subjects dear to the youthful heart. The samples submitted at the end of the chapter fully justify their master's disregard of pedagogical traditions of discipline in allowing the pupils to follow their own inclinations and interests. The "Ilonds" are illustrations, half map, half picture, of ballads and prose compositions written by the boys. Mr. Cook protests that they are quite unoriginal, because *Robinson Crusoe, Treasure Island,* and a score of other juvenile tales have long since made islands a classic theme of childhood. But after all, what is genius except the use of familiar materials in an unique manner? And "Mixed Grill Ilond," which is one of the many fine illustrations in Mr. Cook's book, with its bedevilled Hell whence repentant souls are blown to the Heaven of apple tart makers through an exhaust pipe, is a creation worthy of Rossetti in his classic diagram of Dante's *Inferno.*

The building of miniature "Playtowns," the acting of Shakespearean plays leading over into dramatic authorship, miming and ballad presentation etc., are less startling contributions to pedagogical thought, but like the other chapters, are rich in suggestions for the resourceful teacher. Indeed, there is no question at all as to the enduring value of Mr. Cook's contribution to educational methods, the real problem is to find teachers in whom the spirit of make believe is yet alive, so that they possess sufficient insight and adaptability to be able to do things "the play way."

In her *Study of the Mental Life of the Child,* although she has collected a great many new illustrations, Dr. Von Hug-Hellmuth has not advanced beyond the Freudian studies of infantile eroticism. Indeed, her whole description of the child's psychic life and activities may be adequately epitomized in the one term "sexuality." That eneuresis, erethic sucking, masturbatory activities, etc., are characteristic of the first years of childhood almost any student who approaches the subject with the psycho-analytic viewpoint will admit, but to insist on the libidinous nature of pure muscular movement, or the invariable existence of a sexual *Angst* in fear, would indicate the clinging to a preconceived idea in the face of every logical process of reasoning. Dr. Hug-Hellmuth fails entirely to offer conclusive proof that the spontaneous movements of infants are not merely an expression of the *élan vital,* the energy which animates all living organisms, and of

which the sexual impulse is necessarily only one manifestation. Nor does she go beyond the Freudian assumptions that certain animals are in every instance an erotic symbol, to substantiate her statement that the dreams in which children repeat terrifying experiences of being chased by bulls or other ferocious beasts always have an underlying sex motif. It can be quite as plausibly maintained that fear is equally with sex one of the great instinctive forces governing human life, and that of itself it offers a sufficient explanation of such dream occurrences as the author cites in support of her position.

A good example of the far-fetched type of reasoning which Dr. Hug-Hellmuth employs is shown in the following extract: "There is a better basis than simple superstition for the popular belief that those children are of an especially erotic nature whose mothers during pregnancy have continued sexual intercourse until near delivery .... it may be induced through purely physical influences resulting from the shakings of the mother's uterus, a source of stimulation in which a variety of muscle and skin sensations take their rise that have a certain effect long before the infant has reached complete maturity." There is little necessity for such an elaborate theory in face of the obvious fact that such a type of mother must herself be possessed of an exceedingly erotic temperament, which in accordance with the laws of heredity would be transmitted to her offspring in the very germplasm of the ovarian cell itself.

In short, Dr. Hug-Hellmuth's monograph, while an excellent presentation of the extreme Freudian viewpoint, must be read critically, and not accepted as the final word in psycho-analysis. Dr. Putnam and Miss Stevens have rendered the work into clear-out, forceful English, and deserve much credit for the tactful handling which they have given to a theme which cannot but have more or less repelling qualities to the average reader.

There could be no more touching plea for the children of the poor, no more vivid picture of the social revolutionist in the making, than Dr. Tschudi's simple recital of the answers given by school children in answer to the following questions: "What is your greatest wish? What is your deepest joy? What work do you like best besides school tasks? What do you do with your pocket money? What would you do if you had a thousand francs? What would you do if you were rich? What would be the noblest thing you could do? Why is stealing forbidden?"

What do they wish for, these little ones who live on the streets or in crowded tenements,— dolls, candy, toys? Some do, to be sure, but the vast majority answer that they want a dress "because this one is too small," or a bed "in which I may sleep alone," or that "mother need no longer go out washing and cleaning." And in what simple pleasures they rejoice,— "When I can play with the neighbor's cat, then I am happy. My mother will not permit me to have one, but I take the neighbor's cat in my arms and play with it." But most of them find their greatest joy in play with brothers and sisters, or with the father when he does not return too tired from his work. And so the pitiful tale runs on, telling of selling papers for money to help a weary mother or of unskilful hands preparing the evening meal, so that father and mother have only to sit down to supper when they come home from work; of saving pocket money against sickness or in order to learn a trade wherewith to earn the daily bread; of the pretty clothes and the

good things to eat a thousand francs would buy,— always for the whole family, never for self alone; of the many poor people to be made happy "if I were rich." Finally we come to the proletarian child's idea of the noblest deed a person can do,— there is no doubt in the mind of any one of them. To loose the fetters which bind his parents, to free them from toil and care, to bring a little pleasure into their weary lives,— that is the ideal to which the child of the slums yearns with all his heart and soul. Truly they are strangely unselfish, these babies of the working class. And they have been imbued with the traditional moral teaching, too. "Every child knows that stealing is forbidden," they say naïvely. But they add a significant sentence to this statement: "Only in time of dire need, when one is starving, then it is permissible to steal," or "When a rich employer will not give his workers enough to live on, then it is right to steal from him." Taught thus in those early impressionable years, Dr. Tschudi concludes, why should they not heed these tenets later on, when the aftermath of war brings upon the proletariat an economic desperation which renders him hopeless? It is not so easy to find an answer to this pertinent question, and when one has read these words which fall so innocently from the lips of little children, he will be more apt to see the revolutionary movement in all its human feeling, not merely as a problem to be solved by the cold logic of economic doctrine.

PHYLLIS BLANCHARD.

New Schools for Old. The Regeneration of The Porter School. By EVELYN DEWEY. N. Y., Dutton, 1919. 337 p.

Those of us who look back to a childhood on the farm with occasional attendance at the "district schoolhouse" will recognize a familiar picture in the dilapidated, one-room building which was the original center of learning at Porter, Missouri. But we will rub our eyes at the vision of that same school under the able leadership of Mrs. Harvey, with its modern sanitary equipment and its position as social center of the community. In fact, Mrs. Harvey has gone into Porter and put into practice all the theories which our professors of rural sociology labor to instill into the minds of their students. Persuading the men of the district to donate their labor, she achieved a thoroughly repaired, furnace-heated schoolroom in place of the forlorn shack with broken windows and door swinging loose from the hinges. Better yet, this very coöperative effort became the germ of a community spirit and neighborliness which evolved into men's and women's clubs, to say nothing of less organized but equally important institutions which have removed the traditional isolation of the farmer's life. From the first humble effort for a better school far-reaching results have thus been attained. From school gardens to university extension courses on agricultural methods was a surprisingly short step. From interest in things musical as represented by an ancient organ and a cheap phonograph the way was clear to a young people's band now in demand at all county functions. And in the final result there has been a complete regeneration of the social, economic, and moral life of the community.

All these metamorphoses Miss Dewey has described in the following chapters: The Country Life Movement; The Little Red School-House To-day; How Porter Found a Solution of the School Problem; The Story of The New Porter School; The Growth of the Community; The Social Life of the School; Ethics and the Social School; The School and the Economic Interests of Porter; The School Program and

Organization; Agriculture and the Curriculum; The Place of Reading and Writing in the Curriculum; Education for Democracy. The book has an undoubted practical significance in that it outlines the treatment of concrete situations and the methods of overcoming difficulties which must be encountered in any attempt to apply the teachings of students of rural problems.

PHYLLIS BLANCHARD.

Algumas Notas Pedagogicas (1916), *Mutilados da Guerra* (1918), and other pedagogical pamphlets. By FERNANDO PALYART PINTO FERREIRA. Lisboa, Casa Portugesa.

In these monographs, Senor Ferreira, the Portuguese minister of education, sets forth briefly his ideas concerning the teaching of drawing, arts, and crafts work, and the general pedagogical methods for primary education. He also reviews the work done in France for professional re-education of wounded soldiers. *Some Pedagogical Notes* shows an intimate knowledge of the new movements in pedagogy, and a familiarity with the educators of other countries,— Dewey, Montessori, Sloyd, and others,— and emphasizes the author's desire to introduce more extensive courses in manual training, drawing, and general science into the elementary school curriculum, voicing at the same time an approval of school museums, entymological collections, etc. The other pamphlets treat of these subjects individually, in their various aspects.

It is the account of the French reeducational work that most interests us at the present time. It is described under the following chapter headings: Functional reeducation; Estimation of natural aptitudes; Selection of a profession; Professions; Artificial limbs; Value of the stump of the amputated limb; Education of injured left hand; General education; School for reeducation at Bordeaux; School for reeducation at Paris; School at Lyons; Psychological school; Morale of wounded; Condition of the wounded; Blind and deaf; Conclusions. The French professional reeducation has centered on agriculture, manufacture of toys, photography, carpentry and locksmith's trade, agricultural machinery. The different schools have well-equipped work-shops, and offer extensive courses in commercial as well as industrial education. The psychological school trains those who are to act as vocational guides, etc., for the wounded soldiers. All the schools have ample resources, Senor Ferreira concludes, and are inspiring places to visit, so fine are the results they are accomplishing. His book is only the barest outline of the work that he inspected, as his entire report covers only 57 pages, but the appendix contains some very interesting photographs, and the broad scope of the reeducational undertakings of France is brought vividly home to the reader.

PHYLLIS BLANCHARD.

BOOK NOTES

The Intelligence of School Children. By LEWIS M. TERMAN. Boston, Houghton Mifflin, 1919. 317 p.

This is one of the Riverside Textbooks in Education edited by Professor Cubberley of Leland Stanford Junior University. In his Introduction the editor tells us that this book was written primarily for the grade teacher and as an introduction to the author's "The Measurement of Intelligence." Its greatest usefulness, it is said, would probably be for Teacher Study Clubs and State Reading Circles, or as an introductory textbook for students in normal schools, etc. "A careful study of it by the teachers of a city or State would contribute wonderfully to the intelligent handling of children, and the study of it by prospective teachers would open up entirely new conceptions as to educational procedure, and would lead to a far more satisfactory direction of the exceptional children found in every school." The author in his Preface tells us the book was written for the rank and file of teachers, supervisors, etc., and his purpose is to illustrate the large individual difference in original endowment. It does not treat the psychological principles underlying intelligence tests.

The chief topics are: Some Principles of Intelligence Testing; Amount and Significance of Individual Differences; Individual Differences among Kindergarten Children; Individual Differences in the First Grade; Individual Differences in the Fifth Grade; Individual Differences in the First Year of High School; The Mental-Age Standard for Grading; Mental Tests of Laggards; Case Studies of Forty-one Superior Children; Intelligence Tests in Vocational Guidance; and Practical Suggestions for the Use of Mental Tests.

The Aims of Teaching in Jewish Schools. By RABBI LOUIS GROSSMANN. (With an Introduction by G. STANLEY HALL.) Cincinnati, Teachers' Institute of the Hebrew Union College, 1919. 245 p.

We have here a very interesting and important presentation of the Jewish idea of education grade by grade, from the first to the eighth inclusive. We are then told of the proper relation between the public and religious school, the teacher and the community, the Hebrew language, the picture in the religious school, children's services, music in the religious school, and charity collections and charitableness. The author is well acquainted with the various studies of childhood that have been made and also has a keen sympathetic feeling for childhood. This gives his book a vital touch.

Comparative Education. Ed. by PETER SANDIFORD. N. Y., Dutton, 1918. 500 p.

This is a book worth having. Since the outbreak of the war comparative thought has been tremendously stimulated. Especially have the systems of England and Germany been contrasted. In this volume W. F. Russell of the University of Iowa writes of the system of the United States; I. L. Kandel of Columbia of that of Germany; A. H. Hope of Greenwich, England, of that of France; H. W. Foght, of the

Bureau of Education, on Denmark; and the editor, on the systems of England and Canada.

The above commendation of the book was written before it had been read. The after-impression is somewhat different. In the first place, it has no right to the word "comparative," for there is nothing comparative in it. We have simply presentations of six systems, themselves of very unequal merit and treated with still more diversity of gift. Denmark is represented by the United States Bureau's expert in Rural Education, and Germany by the Carnegie Specialist in Education. Worst of all, the expectation one naturally has in reading a book issued in 1918 that war and post-war conditions will be considered, is also grievously disappointed. Very much of the material is of the calibre and method represented in most of the Bureau of Education's reports on educational systems of foreign countries. A better title for this book would have been "A Compilation Describing the Educational System of Four Great Countries, One Small One, and a Province."

The Gary Schools. Publ. by GENERAL EDUCATION BOARD OF NEW YORK CITY. 1918.

At the request of the Board of Education and the City Superintendent of Gary, a survey of the Gary system was made by the General Education Board of New York City and resulted in the following eight booklets, which are rather copiously illustrated and describe fully, perhaps too fully, each of the following aspects:

The Gary Schools: A General Account. By Abraham Flexner and Frank P. Bachman. 265 p.

Organization and Administration. By George D. Strayer and F. P. Bachman. 126 p.

Costs. By F. P. Bachman and Ralph Bowman.

Industrial Work. By Charles R. Richards. 204 p.

Household Arts. By Eva W. White. 49 p.

Physical Training and Play. By Lee F. Hanmer. 35 p.

Science Teaching. By Otis W. Caldwell. 125 p.

Measurement of Classroom Products. By Stuart A. Courtis.

The Board announces that, in view of the widespread professional interest in this survey, they will send any of the above listed volumes free on application.

Letters to Teachers. By HARTLEY B. ALEXANDER. Chicago, Open Court, 1919. 253 p.

These letters are journalistic, propaganda written during the war and here reprinted. They were directed to the internal rather than the external condition of our nation. Most of the letters are on general topics, but there are a few that are grouped under Foreign Language Study, Community Pageantry, Education in Taste, Education and Democracy. They were originally addressed to the people of Nebraska, although they deal with both local and national problems. They discuss such topics as the School and the Commonwealth, The Curriculum, The Humanities, The Life of Youth, The School System, The Teacher's Profession, and The Ballot.

These letters are very general, and the attitude seems to be that of a philosopher who assumes that from the height of general abstract principles he can decide concrete questions in a rather *à priori* way. The author ignores the fact that one result of the war has been to make "goody" generalizations about education obsolete. Teachers now want to know specific facts about the soul of the child, what the needs and trends are in the community, and how to adapt the two with

the least loss of efficiency; and those who are up to this question will find little to aid them in this book. The time has come when education should cease to be the tumbling ground of metaphysicians, theorists, and moral speculators of any kind.

Education and Citizenship and Other Papers. By EDWARD KIDDER GRAHAM. New York, Putnam, 1919. 253 p.

The purpose of this volume is to bring together the more notable addresses of the late president of the University of North Carolina, who died last October in his forty-third year. The twenty-five papers are arranged in four groups, as follows: (1) Education and Democracy, (2) Culture and Citizenship, (3) Student and College Relations, and (4) Occasional Papers. The attitude taken on the great questions he discusses is thoroughly sane and progressive, and shows a very competent mind with a firm grasp on the larger problems of education. The death of the man is indeed an untimely loss in this period of reconstruction.

What the War Teaches About Education. By ERNEST C. MOORE. N. Y., The MacMillan Co., 1919. 334 p.

The war has been the proving stage of two colossal experiments in education. The first, which began forty years ago in Germany when her autocratic government initiated the plan of subjection to the world, is the most remarkable demonstration of the power of teaching in the history of man. The second is the colossal undertaking of the United States, profiting by the failures and successes of France and England, in training and equipping a large army within a twelvemonth, transporting two million men across the seas, and conquering Germany.

The main topics treated here are: Contemporary Ideals; The Child in Modern Society; Is the Stress Now Put on Practical Instruction Versus Idealistic Training Good?; Why We Must Go Slowly; General Discipline; Arithmetic and Mathematics; Formal Discipline; What Is History and Why We Want It; What the War Teachers About Education. A number of these articles are addresses or papers published in various educational journals. The book strikes a high note, but it often sags and lacks the unity that the title suggests.

The PEDAGOGICAL SEMINARY is asked to announce the existence of the "Bureau Central de Documentation Scientifique sur les Ecoles Nouvelles" under the guidance of Dr. Adolphe Ferrière. The aim of the *Bureau* is to act as a clearing house for the educational movement represented by the "New Schools" (see *Ped. Sem.*, Dec., 1918). Dr. Ferrière is at the head of one of these schools at Pleiades sur Blonay in Switzerland, is professor of child psychology and pedagogy at the *Institut Rousseau,* and doctor in Sociology. He would be grateful if the readers of the PEDAGOGICAL SEMINARY would send him publications upon new theories or practice of child education.